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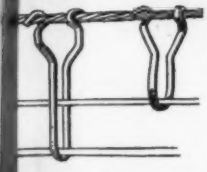

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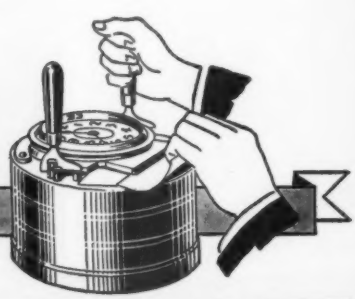

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Telephony

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CONTENTS

Opportunities for Telephone Industry in Years Immediately Ahead 9
L. M. BERRY

The Operators' Corner 11
MAYME WORKMAN

Carmody, Target of Rural Company Protests 12
STANLEY R. EDWARDS

Mathematics for Telephone Engineers (article 7, Part VIII) 14
H. H. HARRISON

In the Nation's Capital 20
FRANCIS X. WELCH

Foreign Travelogue to Friends "Back Home" 26
JOHN H. AGEE

Depreciation Enters Bell Inquiry; Important to Independents (editorial) 28

Financial Operating News and Data 30

Growth 32
ANNE BARNES

Activities of Commissions and Courts 33

"Telephony's" Engineering Data (and Index) 34
B. C. BURDEN

Telephony

JULY 3, 1937 VOLUME 113, NUMBER 1

Opportunities for Telephone Industry In Years Immediately Ahead

TELEPHONE COMPANIES urged to prepare for handling largest number of subscribers and largest amount of toll in history. Greatest opportunities for industry said to lie in years immediate future. Confidence and enthusiasm two greatest assets in selling. Employe should study constantly to obtain best results in selling and building up public relations. Address at Ohio convention

By L. M. BERRY
General Manager, L. M. Berry & Co., Dayton, Ohio

THE FUTURE possibilities of the telephone business are just beginning to be appreciated by many who were hard hit during the depression years. A few years ago there were some people who really thought the telephone business would never come back and, of course, at the same time there were probably a much larger number who thought the country had gone to the dogs for good.

Fortunately, about this time many telephone men came to realize that telephones could be sold to people the same as any other commodity or essential service, if the proper effort were made. As a result, the telephone industry is today more sales-minded than it has ever been before. Telephone employes and telephone sales forces are not only selling telephones today, but they are also selling public relations better than ever before.

I believe it was E. M. Statler, the hotel man, who first coined the phrase, "The customer is always right." In dealing with the public, as you people do, that saying is not always true; but we also know that without customers there would not be any business, so I think it is always a good policy to give the customer the benefit of the doubt whenever there is any question.

It is not a difficult matter for any telephone executive to train all of his

employes so that all contacts with subscribers and the public make for good feeling towards the telephone company. Good public relations today are a tremendously valuable asset for any telephone company, but with the rapidly-changing political and social conditions which we are having in this country in this day and age, they are going to be still more important next year and in the years to follow.

Therefore, you telephone executives who already have a sales-minded group of telephone employes must talk to them frequently, giving them new ideas and injecting new enthusiasm so they will stay that way; and you executives who have not done much along this line up to the present should get busy right now.

There is no question in my mind that the greatest opportunities in the history of the telephone business are in the years immediately ahead. I think most of us are going to be surprised and amazed at the tremendous strides which will be made in general business in this country and abroad during the next few years. Right now is the time for telephone companies to get ready to handle the largest number of subscribers and largest amount of toll business in their history.

Use Every Effort to Sell More Telephones

Since it is a recognized sales principle that it is always easier to sell people what they want and need, and since we all know that a very large number of non-subscribers now want and need telephone service, it is obvious that telephone companies should be using every effort right now—through their own employees and through salesmen working on that line exclusively—to sell more telephones. There has never been a better time to do this than the present, and this is being demonstrated by a large number of telephone com-

panies in Ohio, as well as in other parts of this country.

Every telephone employe should be sales-minded and constantly on the lookout for prospects for service whose names can be turned over to the commercial department so they may be called upon and signed up as subscribers. Where a company's size does not justify a separate sales force, the actual orders for telephones can be taken by the telephone employes.

Most Important Factor in the Life of a Business

Salesmanship today is probably the most important factor in the life of an individual or a business. It may be described as the ability to present an idea, product or service accurately, attractively and convincingly. Salesmanship is vital in every phase of life. I have seen so many failures among people who seemed to have everything they required for success, and so many successes among those who did not appear to have anything that would help them, that there is no doubt in my mind that salesmen can be made.

Any man or woman endowed with ordinary intelligence and common sense, and an earnest desire to make good, can make himself or herself a successful salesman or saleswoman. I do not mean that one must be constantly selling goods or commodities or services to qualify as a salesman or a saleswoman. I mean that anyone of ordinary intelligence with an intense interest in the particular work he is doing can sell his ideas and himself to others.

An intense interest in the work one is doing develops more knowledge and enthusiasm, and when you have knowledge, facts and enthusiasm, you are certain to interest those to whom you are talking. Enthusiasm is contagious and gives a person confidence. Confidence radiates in the facial expression of one who is talking, in his tone of voice, in his attitude and bearing, so that those listening believe and are interested in what the speaker says. In my opinion, two of the greatest assets for a salesman, or for anybody, are confidence and enthusiasm.

How may a person acquire enthusiasm? My experience has taught me that there is one sure way, and that is for him to really know all about his particular work or his product. The telephone business is literally loaded with interesting things to talk about, and every telephone employe, who will take the time and trouble to think of reasons why non-subscribers whom they know should have telephone service, can be successful in selling.

There are certain arguments which will interest every prospect, and we telephone people should plan what we are going to say to each person if we are going to be real successes in selling. The value of telephone service and its application to each prospect should be studied and thought out from every angle, as well as the prospect's daily activities, his business or his home needs and desires.

No matter how long an employe has been identified with the telephone business, no matter how experienced he may be in his part of that business, it is important that he keep studying and planning all of the time in order to make the best record in telephone sales and in building up public relations.

Ways in Which a Person May Study

There are five ways in which a person may study: By reading, by listening, by discussing, by observing, and by thinking. These are equally important for every man or woman who wants to sell himself or herself to his or her employer, or who wants to sell his or her ideas.

A person can keep informed and up-to-date by reading the newspapers and the trade papers in his particular field and in allied industries. By being a good listener he can accumulate in the most unexpected places valuable points that will help him in his work. By discussing his ideas with others he can eliminate the weak points and strengthen the strong points of his sales story.

By keeping his eyes open and observing what is going on around him —in his own industry and in the business of his prospects and wherever else he may be—he can prepare himself to take advantage of the opportunities that are constantly presenting themselves to every wide-awake person. By thinking all the time he can get the maximum effectiveness from his knowledge, his ability and the efforts he puts into his day's work.

Ability and Intelligence Valueless Unless Put to Work

Those who handle salesmen know that extraordinary ability and intelligence are valueless unless these attributes are put to work; in other words, you cannot sell people unless you talk to them. You must make the effort, and many telephone employes have found that they enjoy all of their work more when they become sales-minded.

These observations of mine are not new. There is no mystery about success in selling. It is simply a matter of dealing with oneself fairly and fearlessly, with critical self-analysis and a periodic check-up to show the things which should be done and the things which should not be done. This will help any salesman—it will help anybody—do a better job.

But remember, you telephone executives must lay out a definite program for your employes to follow, reinforced by frequent talks filled with new ideas, and then see that they follow that program.

In my own field of selling telephone directory advertising we are training our salesmen constantly, and their schooling is a continuous process, regardless of the length of time they have been with our company. New conditions demand new ideas, and we are constantly making available to all of our salesmen the new methods and plans which we have found can be used successfully in selling telephone directory advertising.

Therefore, I think it should be a part of a telephone company's routine to see that every employe is regularly supplied with all possible information which will help sell new telephone subscribers and which will help maintain and improve public relations. You can always hear a lot of reasons why this territory or that territory is different. Likewise, nearly every prospect for telephone service, if he does not have it or has not actually made up his mind to buy it, will have a reason to put off signing the order.

But, remember, you have something they need and a service that is a vital necessity in this fast-moving age; and all you have to do through your employes and through your salesmen is to present that something—namely, telephone service—in the proper, attractive form, and orders for telephone service will come, and in such numbers as will surprise you.

There Is Not an Employe Who Cannot Make Sales

Many people have the idea that they can never sell anything. There is not a telephone employe who can not talk to his or her friends about the value of telephone service. Frequently merely a suggestion on the part of a telephone employe to some acquaintance that telephone service would be useful and an explanation of the reasons why it would be useful is enough to result in an order.

There are prospects for telephone service and added telephone facilities on every side of us, in every town,

if we will just look around with our eyes and ears open and then do a little talking. Too many people are constantly thinking of the difficulties and the reasons why prospects should not buy rather than the reasons why they should buy.

Certainly the telephone industry has its difficulties and its troubles today. We hear a lot about them and there is much worry about the future because of increased taxation, new commission orders, rates, the Federal Communications Commission, the present administration, new and complicated reports, and what not. There are indeed many problems which are new to the industry.

But if you will go back in the history of the telephone business from the time it started, you will find that there has never been a time when it was without its problems and difficulties, and that by the time one set of major troubles was disposed of, something else had bobbed up to take its place. I have an idea that the history of the telephone business in this respect is pretty much the history of every other worthwhile business; in fact, of every individual.

I do not wish to minimize in any way the importance of the difficulties which confront the telephone industry, but I do know that the groups of people running the Independent and Bell companies are capable of meeting these situations and solving the attendant problems. On the other side of the picture we have the best business conditions since 1929.

Let us take advantage of the great opportunities in our business which are here right now and which are going to continue during the next few years. You telephone people can do this by seeing that every person in your organization is sales-minded.

The Operators' Corner

By MRS. MAYME WORKMAN

Traffic Supervisor, The Illinois Telephone Association, Springfield, Ill.

LOOKING AHEAD. Some things learned as result of experiences during the years of the depression. Series No. 293

CHANGING conditions affect every individual and every business, large or small. The progressive and far-sighted individual or business keeps abreast of the times and looks ahead in order to anticipate and be prepared for the future.

During our recent depression telephone companies were confronted with new and heretofore unknown problems in connection with rendering telephone service to the public. The average telephone company had experienced a gradual growth from year to year, without any particular effort on its part, and had operated its plant upon the assumption that this growth would continue. How well we realize now that this *was* merely an assumption.

While we were aware that other industries were suffering great losses, we still did not realize the same thing was in store for us. It had never happened before. It was just a little slower coming but when it did start, what a let-down! Instead of the usual growth, telephones were ordered out by the hundreds and thousands. Equipment, installed in anticipation of the usual normal growth, was covered with canvas, cold, silent and lifeless as tombstones.

However, when the realization came that new methods must be devised to cope with this most unusual condition, telephone companies snapped into action. Sales organizations were developed, employes were educated in the art of salesmanship and were informed regarding rates for various classes of service and the various types of equipment available.

Zealous efforts were made and are still being made by some companies to recuperate the unusual losses. The value and indispensability of telephone service were brought to the public's attention by means of advertising. The results of these efforts have been gratifying. At the present time some companies have regained all of their losses, while others have the greatest number of stations in the history of some of their exchanges.

Agitation for lower rates, particularly in rural communities, was another bugbear. "Everything else is cheaper, why not telephone rates?" queried an irate public. They did not stop to analyze conditions, which would have resulted in their realizing that telephone rates did not soar skyhigh in line with other commodities during the prosperous era preceding the depression. The public was "lower-price-minded" and wanted prices and rates reduced regardless of the situation.

Shortage of work brought another problem. Telephone companies, like other industries, were criticized for having married women in their employ. "Fire the married women so our men can obtain employment" shouted the public. They did not realize, or at least were adverse to conceding, that many of the married women who were employed were keeping homes together and the wolf away from the door.

While telephone operators were not usurping jobs of the masculine sex, some telephone companies capitulated to the clamor and laid off all their married women. Other companies adopted a policy that when an operator marries she must resign. On the other hand, some companies failed to heed the clamor, except to adopt a policy of not *employing* married women.

What is the outlook today and where are we heading? Telephone companies that are still following the policy of having an operator resign when she embarks upon the sea of matrimony, are facing a serious employment problem. With the advent of better times, more marriages are contracted resulting in an increased number of resignations. A low percentage of experience on an operating force has an adverse effect upon the quality of service rendered and training operators is costly to the telephone company.

We must recognize that the picture has changed. The public has ceased its clamor. Should telephone companies continue a policy that is detrimental to their service and costly as well?

Questions from Illinois Operators

1. What procedure does one take after receiving an NC report on a built-up circuit?
2. Should a filing time be shown on "WH" report tickets?
3. Should a filing time be shown on sequence calls?
4. On a call placed with the request to hold until a specified time, is the entry "ag (time)" encircled in the Special Instruction space?
5. Can you hold the circuit on a built-up alternate route, NC condition?

The answers to these traffic questions are presented on page 35.

Carmody, Target of Rural Telephone Company Protests

RECENT RULING OF REA ADMINISTRATOR, disclaiming liability of Rural Electrification Administration for inductive interference to grounded telephone lines, arouses strong resentment among the hundreds of small rural grounded telephone lines of Middle West states. Representatives of state and national organizations seek conference with Administrator Carmody to present full and complete situation of grounded telephone lines and electrification projects

By STANLEY R. EDWARDS

REACTING AGAINST the ruling of Administrator John M. Carmody of the Rural Electrification Administration — that the REA will not pay for modernization of grounded rural telephone lines affected by inductive interference from electric lines sponsored by the REA—rural telephone companies are protesting to Mr. Carmody, to their state telephone associations and also to their Congressmen and Senators in Washington against the injustice of this decision.

It is quite evident that Mr. Carmody in sending out his letter June 9 to state officials and REA borrowers (TELEPHONY of June 19, pages 16 and 31) acted without becoming informed, accurately, in the matter.

Letters from several state association officials indicate that Mr. Carmody through his ruling has placed himself in an untenable position and has aroused the entire rural telephone industry in those states where rural electrification projects are under way. Incidentally, it may be mentioned, many members of rural electric cooperatives are also shareholders in the rural mutual telephone companies in their territories.

The executive committees and boards of directors of several state associations have already met and discussed the matter. In some cases protests have been sent Mr. Carmody by them. A conference with Mr. Carmody is expected to be arranged for some day next week at which time executives of several state associations and Louis Pitcher, executive vice-president and Charles C. Deering, secretary-treasurer, United States Independent Telephone Association will make strong presentation why the ruling should be rescinded and the agreements and understandings for allocation of costs of metallicizing rural telephone lines when necessary because of rural electrification, under which the various parties concerned have been operating, again be made effective.

Illinois Association Criticises REA Administrator

The Illinois Telephone Association, in its news letter of June 22, under the heading, "Startling Announcement! REA Disclaims Liability for Interference to Grounded Telephone Circuits," says:

"Rural Electrification Administrator John M. Carmody is quoted in a press release from Washington as declaring grounded telephone circuits out-of-date and that REA projects should not be saddled with the cost of modernizing them where the construction of new electric distribution systems may produce inductive interference. He is also quoted as saying that in Wisconsin a telephone company is not entitled to compensation for inductive interference to grounded telephone circuits as they are 'not regarded as up-to-date.'

Mr. Carmody is apparently 'not up-to-date' as the Wisconsin Public Service Commission under date of April 6, 1937, approved the report of a joint committee representing telephone and electric utilities in which it is agreed that the electric companies will bear the cost of one additional wire to make grounded circuits metallic and will bear the cost of repeating coils installed where necessary (TELEPHONY of May 22)."

The letter which the REA Administrator sent to contractors under date of May 28 is quoted in full after which Secretary A. J. Parsons of the Illinois association continues:

"We cannot believe that Mr. Carmody's office is familiar with the conditions under which telephone service is furnished to the farmers in the Middle Western states. Most of this service is furnished by small, locally-owned Independent telephone companies—many of them cooperative or mutual organizations.

In order to supply telephone service to farmers at the lowest possible rate, grounded circuits are used and the subscribers are satisfied with the service. The electric distribution circuits being built under REA specifications are grounded for the same reason.

These grounded electric distribution lines will destroy the usefulness of grounded telephone circuits wherever they parallel. It will work a very great hardship on the Independent telephone companies to bear the additional cost of making their circuits metallic, and in many cases they are not in a position to do the necessary financing.

The farmers need both the electric and telephone service and we believe the telephone companies are glad to cooperate to this end. It seems somewhat inconsistent to take the position that grounded telephone circuits have no rights because they are 'old fashioned' and at the same

time to foster the use of the same kind of construction in extending rural electric distribution lines.

If your company has grounded rural telephone circuits we would suggest that you express your views on this subject in a letter addressed to John M. Carmody, Rural Electrification Administrator, Washington, D. C."

"We, of Texas," says Oscar Burton, president of the Texas Telephone Association, "have been sailing along on the assumption that we had a binding agreement with the REA through its former Administrator, Morris L. Cooke—that any damage done to existing telephone lines would be, at least, partially repaired as evidenced by quotation from a letter received from W. E. Herring which was signed 'For the Administrator' under date of October 15, 1936. This quotation was incorporated by Mr. Cooke in a letter to Morris Sheppard on October 26, 193€, which original letter I hold in my file. Here is the quotation:

This agency recognizes that, under certain conditions, there may be interference on telephone lines owing to the construction of power lines by our borrowers. We further recognize that in such cases, the clearing of such trouble is a part of the cost of the project. Before, however, approval will be given to any expenditures for such work, it will be necessary that our project sponsors submit to us in detail the arrangements that are reached after conferences with the telephone company, together with the estimated cost of the work.

"On December 23, 1936, I received a reply to my letter addressed to Mr. Cooke over his own signature, in which he referred to the quotation from Mr. Herring's letter of October 15, heretofore quoted, and made the following comments:

This paragraph (Mr. Herring's letter of October 15) it seems to me covers quite completely our ideas and thoughts in connection with inductive interferance. Naturally we do not propose to replace with new lines, telephone lines that have practically lived their life, and I doubt that your company (the association) would expect such action on the part of our rural cooperatives.

These situations are all given serious consideration by the cooperatives' engineers on the various projects, and agreements are entered into covering the clearing of any trouble caused by the construction of power lines.

You may be sure that the Rural Electrification Administration is watching such matters carefully and, insofar as possible, will see that our cooperatives take the usual precautions to obviate any difficulties with communication lines.

"Upon receipt of News Release No. 203 of June 8, to which reference is made in TELEPHONY of June 19, I wired Congressman Morgan G. Sanders, as follows:

Please see REA News Release No. 203, June eight, and note Administrator Carmody denominates ground return telephone lines old-fashioned and out of date. Ascertain if high voltage rural electric lines using a natural phenomenon, the earth, as return path the same as telephone companies have been using for many years, might also be classed as old-fashioned.

When REA uses the earth in parallel with existing telephone lines also using the earth, it amounts to a monopoly of its use by the electric line. Ask him if he claims a monopoly on the use of the earth. Thank you.

"I am in receipt of his reply as follows:

'Just had conference with Carmody REA and he promises an immediate investigation and a report on their conclusions.'

We, of Texas, have never contended that we should be compensated beyond the cost of new materials and the equivalent of the value of the life remaining in materials which may be rendered unfit for continued service due to the placement of additional wires on existing poles and crossarms, if crossarms are in use or required, and we have been very successful in dealing with private corporations on that basis.

The whole problem is wrapped up in the statement made in my telegram above referred to—that the use of the earth as the return path for high voltage electric lines amounts to a monopoly; and in line with one or more of the decisions that you quote (Mr. Welch's article in TELEPHONY of June 19), we have contended, and will continue to contend, that no one has a monopoly upon the use of a natural phenomenon such as the earth, as the return path for electric current.

Putting it another way, if a ground return telephone line is 'old-fashioned and out of date,' then I contend that the 1936 model electric line, using the same characteristic is, likewise, obsolete and out of date."

The position of the Texas association relative to rural electrification is set forth in a resolution adopted by its board of directors September 30, 1936, and unanimously approved by its membership at its annual convention last March.

The REA, the two Texas Senators and all Texas congressmen were sent copies of this resolution. Most of them acknowledged receipt of the resolution and indicated their sympathy with the position taken by the association, Mr. Burton states.

The Wisconsin State Telephone Association directors on June 24 adopted a resolution protesting the ruling and a copy of it has been sent Mr. Carmody.

After a meeting of the executive committee of the Minnesota Telephone Association, June 21, Secretary J. C. Crowley, Jr., set forth his organization's position in the matter. In a letter to Charles C. Deering, secretary of the United States Independent Telephone Association, Mr. Crowley said:

"While I fully agree with Mr. Carmody on one point—that no telephone company should expect to have its lines rehabilitated by any REA project—I disagree entirely with what he attempts to say in that no recognition will be given to existing ground lines.

While it has been the policy of this association, for and on behalf of its members, to follow a 'live and let live' policy, we do not propose to accept Mr. Carmody's views as final in this matter, due to the fact that for 11 consecutive years the private power companies in this state have recognized and furnished the necessary materials to metallicize existing grounded telephone circuits where they have made extensions (this does not include any rehabilitation or reconstruction of lines). Likewise in case of pole moves or the release of one side of the highway for their benefit, compensation has been paid for in the past.

Precedent thus has been established for many years and the Supreme Court of this state has said and established the fact that a second utility entering the field shall not, and must not, create any hazard to any existing utility, and priority right must be recognized but not monopolized. Our regulatory commission has supported these contentions since 1925.

If Mr. Carmody attempts to make any serious changes in precedents that have heretofore been established, the REA will invite upon itself the criticism and objection of some 1,700 rural telephone companies in the state of Minnesota, in addition to some 200 operating companies serving a large rural clientele.

Please bear in mind that 42 per cent of the rural telephones in this state are owned and operated by the farmers themselves and fully 60 per cent of these lines are grounded circuits rendering a satisfactory service to those whom they serve. Any condition created to disturb the present operation of these lines or any attempt to set aside the precedents

(*Please turn to page* 18)

Mathematics For Telephone Engineers

By H. H. HARRISON, M. Eng., M.I.E.E.

SEVENTH ARTICLE, PART VIII, continues the subject of the integral calculus. This mathematics series, begun May 30, 1936, was especially prepared for engineers handling alternating current problems

The method of integration applied to obtaining the area of a circle has an electrical application in obtaining the relationship between the diameter of a cable core and the thickness of its dielectric in order to attain a specified insulation resistance (Fig. 106). With a given insulating material the thickness must increase with the diameter of the conductor since the leakage path per unit of length increases with the surface of the conductor and therefore with its diameter.

In Fig. 106 the diameter of the insulating covering is D, and d is that of the copper core. If S is the specific resistance of the insulating material and l the length of the cable, the insulation resistance due to a layer of thickness, dx, will be directly proportional to dx

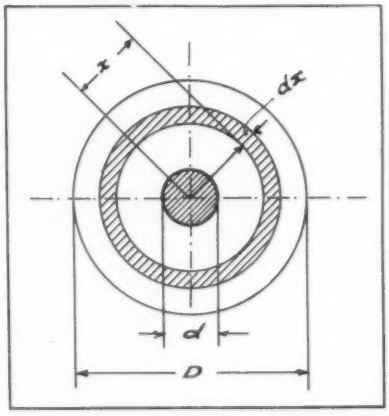


Fig. 106. Electrical Application of Method of Integration in Obtaining the Relationship Between the Diameter of a Cable Core and Thickness of Its Dielectric in Order to Attain a Specified Insulation Resistance.

and inversely proportional to the area of the leakage path $2\pi x x l$.

Therefore $dR = S.dx/2\pi lx$ ..... (1)

Integrating this between the limits $x = d/2$ and $x = D/2$, the insulation resistance of a length of the cable is

$$R = S/2\pi l \int_{d/2}^{D/2} dx/x \quad \ldots\ldots (2)$$

$\log_\epsilon x$ is the integral of $1/x$; therefore

$R = S/2\pi l(\log_\epsilon D/2 - \log_\epsilon d/2)$

$= (S/2\pi l).\log_\epsilon D/d$ ..... (3)

There is no standard of comparison for the resistance of insulators and it is usual to take an imaginary material having an area of one square centimeter,

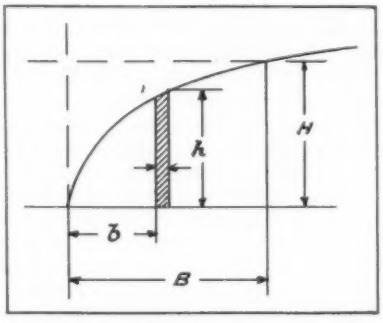


Fig. 107. Finding the Area of a Parabolic Curve.

a length of one centimeter and a resistance of one megohm and to express the specific resistance in terms of this unit.

Writing $\log_\epsilon D/d$ as $2.303 \log_{10} D/d$ and substituting the value of 2π, (3) transforms to

$R = (S/2.7281) \log_{10} D/d$ ..... (4)

l is in centimeters and R in megohms, while D/d is a ratio and may be expressed in any suitable unit.

There are several other examples of finding the areas of plane curves which find application later and are, therefore, given below.

Fig. 107 is a parabolic curve in which $h^2/H^2 = b/B$.

Now $h = \sqrt{bH^2/B} = (b^{1/2}H)/B^{1/2}$.

The area of the shaded strip $= h.db$

$= (b^{1/2}H/B^{1/2}).db.$

The area of the whole figure is

$$H/B^{1/2} \int_{b=0}^{b=B} (b^{1/2}).db$$

$= (H/B^{1/2}) \times [B^{3/2}/(3/2)]$

$= HB/(3/2) = (2/3).H.B.$

$= 2/3$ rds of the area of the circumscribing rectangle.

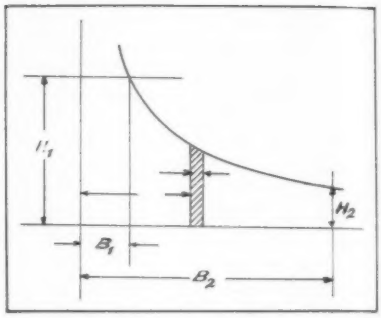


Fig. 108. Finding the Area of a Hyperbolic Curve.

Fig. 108 is a rectangular hyperbola. In this case, $H_1B_1 = H_2B_2 = x.y$.

From this, $y = H_1B_1/x$

The area of the shaded strip

$= y.dx$

$= (H_1B_1/x).dx$

The whole area is,

$$H_1B_1 \int_{x=B_1}^{x=B_2} dx/x$$

$= H_1B_1 (\log_\epsilon B_2 - \log_\epsilon B_1)$

$= H_1B_1 \log_\epsilon B_2/B_1$

This result can be applied to the problem of finding the proportions of the total charge which will flow out at both ends of the cable when the charging source is removed and the two ends put to ground. Referring to Fig. 109, ACB represents the curve of potential along the cable when the steady state is reached and the area of the triangle represents the charge held by the cable.

Removing the battery and putting A to ground, the cable will discharge at both ends. Let P be the potential at point A and p that at any point x; the strip p.dx represents an infinitesimal portion of the total charge. In flowing to ground this splits into two portions, one going by A and the other by B in the proportions (R—x) to x. The total quantity Q_1 at A is:

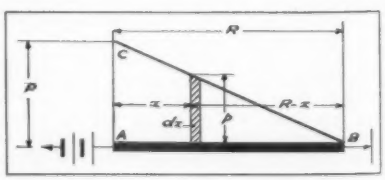


Fig. 109. To Show Law of Discharge of a Cable When the Charging Source Is Removed and Both Ends Put to Ground.

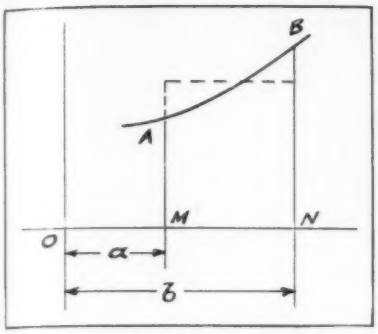


Fig. 110. The Mean or Average Ordinate of a Curve.

$$Q_1 = \int_0^R [p(R-x)/R].dx \ldots . (1)$$

Now,

P : p = R : R—x; therefore

p = P(R—x)/R

Substituting this in (1)

$$Q_1 = \int_0^R [P(R-x)^2/R^2]dx \ldots (2)$$

$$= P/R^2 \int_0^R (R-x)^2.dx \ldots \ldots \ldots (3)$$

Expanding the term in brackets, thus

$$R^2-2Rx + x^2$$

and integrating it, term by term, for x = R

$Q_1 = PR/3 \ldots \ldots \ldots \ldots \ldots \ldots (4)$

The whole quantity in the cable, Q = PR/2; therefore

$Q_1/Q = (PR/3)/(PR/2) = 2/3$

Q_1 is, therefore, $(2/3)Q \ldots \ldots \ldots (5)$

Q_2 is 1/3 Q as a consequence of (5).

Integration is useful as a means of ascertaining the mean or average ordinate of a curve. The mean ordinate of the curve AB, Fig. 110, between x = a and x = b is the height of the rectangle with the base MN and equal in area to the figure ABNM. Thus the mean ordinate of a curve is the area of the curve divided by the base line on which it stands. In Fig. 111 the curve is $y = x^2$

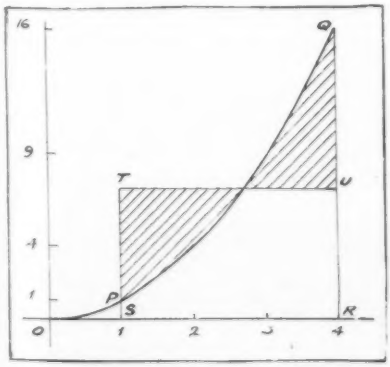


Fig. 111. Mean Ordinate of Curve $Y = x^2$ Between Limits x = 3, x = 1.

and it is required to find the mean ordinate between x = 1 and x = 4.

The area PQRS is

$$\int_1^4 = x^2.dx = \left[x^3/3\right]_1^4$$

$$= 64/3$$

Now RS = 3; therefore the mean ordinate = 64/3x3 = 7.1/9

If TU is the line y = 7.1/9, then the area STUR = area PQRS.

If part of the curve y = f(x) is below the x axis, that portion of its area must be considered negative.

Let $y = x^2$ and find the mean ordinate between x = —2 and x = 3.

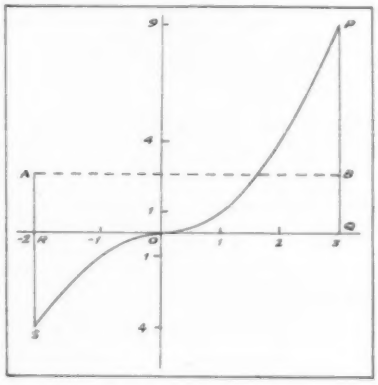


Fig. 112. The Mean Ordinate of a Curve Having Positive and Negative Areas.

Referring to Fig. 112, the area of the curve is

$$\int_{-2}^{3} x^2.dx = [x^3/3] \text{ or } = [27-(-8)]/3$$

$$= 35/3 = 11.2/3.$$

If AB = y = 35/15

Area ABQR = Area OPQ—ORS = algebraic sum of areas OPQ, ORS.

Area of Sine and Cosine Functions:

If dy/dx = sin x, $y = -\cos x + c$.

$$\int_0^{2\pi} \sin x.dx = -\left[\cos x\right]_0^{2\pi}$$

$$= [1-1] = 0$$

Note: Cos $2\pi = 1$, cos O = 1

If dy/dx = cos x, then y = sin x + c and,

$$\int_0^{2\pi} \cos x\ dx = \left[\sin x\right]_0^{2\pi}$$

$$= [0-0]$$

sin 2π = O, sin O = O.

Average Values of Sine Functions:

1. The average value of sin x between the limits of O and π, as is shown by Fig. 113, is $2/\pi$.

The area is:

$$-\left[\cos x\right]_0^{\pi} = -[-1-1] = -(-2) = 2$$

and this divided by π gives the mean ordinate.

It is important to know what is meant by y = sin.nx and y = cos.nx, n being an integer. If n = 1, y = sin x and is positive between x = O and x = π, and negative between x = π and x = 2π.

Referring to Fig. 114 where n is greater than 1, y = sin.nx and is positive between x = O and x = π/n, while it is negative between x = π/n and x = 2π/n. From there onwards the function

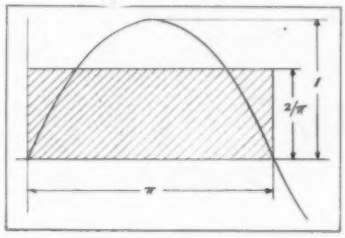


Fig. 113. The Mean Ordinate of a Sine Curve Between $\theta = 0$ and $\theta = \pi$.

is repeated twice more or a total of n(=3) times between x = O and x = 2π.

2. The average value of sin.nx or cos.nx between x = O and x = 2π is zero. This must be evident since the function passes through an equal number of positive and negative values which cancel one another between x = O and x = 2π.

3. The average value of $\sin^2 nx$ or $\cos^2 nx$ between x = O and x = 2π is 1/2. This may be proved as follows:

$$\text{Cos } 2A = \cos (A + A)$$
$$= \cos A \cos A - \sin A \sin A$$
$$= \cos^2 A - \sin^2 A$$

Now $\cos^2 A + \sin^2 A = 1$; therefore

$$\cos^2 A = \cos^2 A - (1 - \cos^2 A)$$
$$= 2\cos^2 A - 1.$$

Also,

$$\cos^2 A = (1 - \sin^2 A) - \sin^2 A$$
$$= 1 - 2\sin^2 A, \text{ from which}$$
$$\cos^2 A = (1/2)\cos 2A + 1/2, \text{ and,}$$
$$\sin^2 A = (1/2) - (1/2)\cos 2A$$

The area of $\sin^2 A$ is, therefore,

$$\int_0^{2\pi} \sin^2 A.dA$$

$$= (1/2)\int_0^{2\pi} dA - (1/2)\int_0^{2\pi} \cos 2A.dA$$

$$= 1/2\ (2\pi - 0) - 0$$

$$= \pi$$

Its average value is, therefore, $\pi/2\pi$ = 1/2.

In the same manner the value 1/2 is found for the average value of $\cos^2.nx$. The average value of

$$\sin nx.\sin mx = O \ldots \ldots \ldots \ldots (1)$$
$$\sin nx.\cos mx = O \ldots \ldots \ldots \ldots (2)$$
$$\cos nx.\cos mx = O \ldots \ldots \ldots \ldots (3)$$

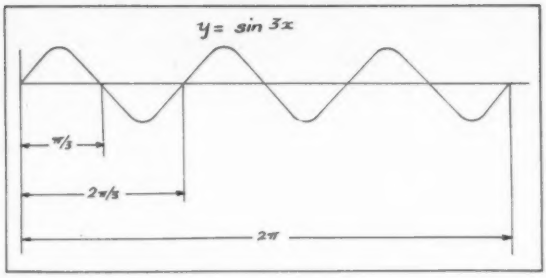


Fig. 114. Graph of Curve $y = \sin \pi x$.

for,

$$\int_0^{2\pi} \sin nx . \sin mx =$$

$$1/2 \left[\int_0^{2\pi} \cos (m - n)\, x . dx - \int_0^{2\pi} \cos (m + n)\, x . dx \right]$$

$$= 1/2 \, [0 - 0] = 0$$

and its average is, therefore, 0.

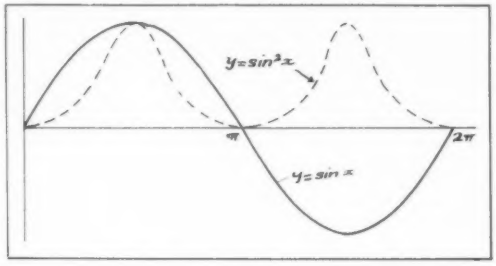


Fig. 115. R.M.S. Value of an Alternating Current.

If $m = n$, (1) and (3) are not true, but (2) remains so, for,

$$\int_0^{2\pi} \sin^2 nx . dx = \int_0^{2\pi} \cos^2 nx . dx = \pi$$

and the average value is $\pi/2\pi = 1/2$ as has been seen.

In the study of transmission matters it is necessary to be able to calculate the "quadratic mean" of a variable quantity; that is, the square root of the mean of all the squares of all values between specified limits. The quadratic mean is otherwise termed the "virtual" value or the R.M.S. (root-mean-square) value.

Let $C = C_0$; let sin wt be an alternating current where C is the instantaneous value at time t, and C_0 the maximum value of the current. Fig. 115 is the graph of such a current and the dotted curve is the square of the function. It will be noted that the ordinates of the latter are all positive.

Now $C^2 = C^2_0 \sin^2 wt = C^2_0 (1 - \cos 2wt)$

$2\pi/w = 2\pi/2\pi n = 1/n = T$, the time of a complete period and the integration can be effected over the 0 to T/2 or 0 to T. Making the period T/2 or π/w, the mean of the squares is

$$\int_0^{\pi/w} (C^2_0 \sin^2 wt . dt)/(\pi/w)$$

$$= (wC^2_0/\pi) \int_0^{\pi/w} dt - \int_0^{\pi/w} \cos 2wt . dt$$

The value of the second term is zero; therefore, the last equation reduces to

$$(wC^2_0/\pi) \int_0^{\pi/w} dt$$

$$= (wC^2_0/\pi) \times (\pi/2w)$$

$$= C^2_0/2$$

Therefore R.M.S. $= C_0/(\sqrt{2}) = 0.707\, C_0$.

THE LENGTH OF AN ARC:

Let A, B be a small portion of a curve, A and B being points near together. Denoting the small length A, B by $\triangle s$, the complete arc would be equal to s. Due to the smallness of AB it can be considered to be a straight line and its components will be $\triangle y$ and $\triangle x$ respectively. Therefore,

$$\triangle s^2 = AB^2 = \triangle x^2 + \triangle y^2 \text{ and}$$

$$(\triangle s/\triangle x)^2 = 1 + (\triangle y/\triangle x)^2 \text{ i.e.}$$

$$\triangle s/\triangle x = \sqrt{1 + (\triangle y/\triangle x)^2}$$

When $\triangle x$ tends to 0,

$$ds/dx = \sqrt{1 + (dy/dx)^2}$$

Therefore,

$$s = \int \sqrt{1 + (dy/dx)^2} . dx$$

This result can be used to find the length of the quadrant of a circle (Fig. 116).

From the figure, $x^2 + y^2 = r^2$. The length s from $x = r$ to $x = 0$ is given by

$$s = \int_0^r \sqrt{[1 + (dy/dx)^2]} . dx$$

$$= \int_0^r \sqrt{1 + (x^2/y^2)} . dx$$

$$= \int_0^r (1/y) . dx$$

From the figure,

$x = \sin u$, i.e., $u = \sin^{-1} x$, then

$dx/du = d(\sin u)/du = \cos u$

also $y = \sqrt{1 - x^2} = \cos u$

Therefore,

$$\int dx/\sqrt{1 - x^2} = \int \cos u . du/\cos u$$

$$= \int 1 . du$$

$$= u + c$$

$$= \sin^{-1} x + c$$

and $\int_{x=0}^{x=1} \sin^{-1} x = \pi/2$

The circumference of the circle is, therefore, $4 \times (\pi/2) = 2\pi$ where $r = 1$.

GRAPHICAL INTEGRATION: From the previous section on the differential calculus the reader will have gathered that it is possible to effect the integration of a function of x by graphical means. Referring to Fig. 117, the primitive curve is a parabola. It is divided into eight strips and the mid ordinate of each strip is projected onto a vertical line through point O. From O a horizontal line is drawn terminating at the point P, the pole.

The intersections of the mid ordinate projections with the vertical through O are joined to the pole P, forming a series of triangles having OP as their common base. The intersections of the sloping lines to P with a line vertical to OP and distant from P by a horizontal length $\triangle x$ give the vertical heights of the small, successive, triangles a b c, c d e, which build up the sum curve.

By similar triangles,

$$bc/ab = Oa'/OP$$

Therefore $Oa' \times ab = OP \times bc$.

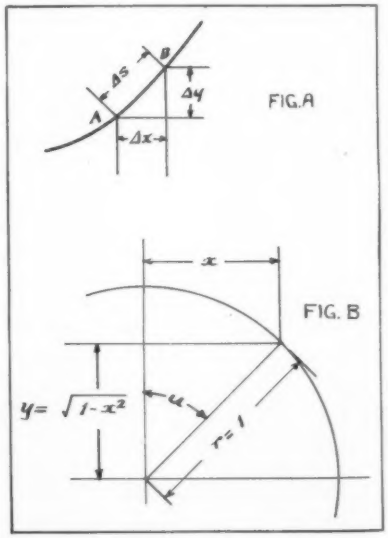
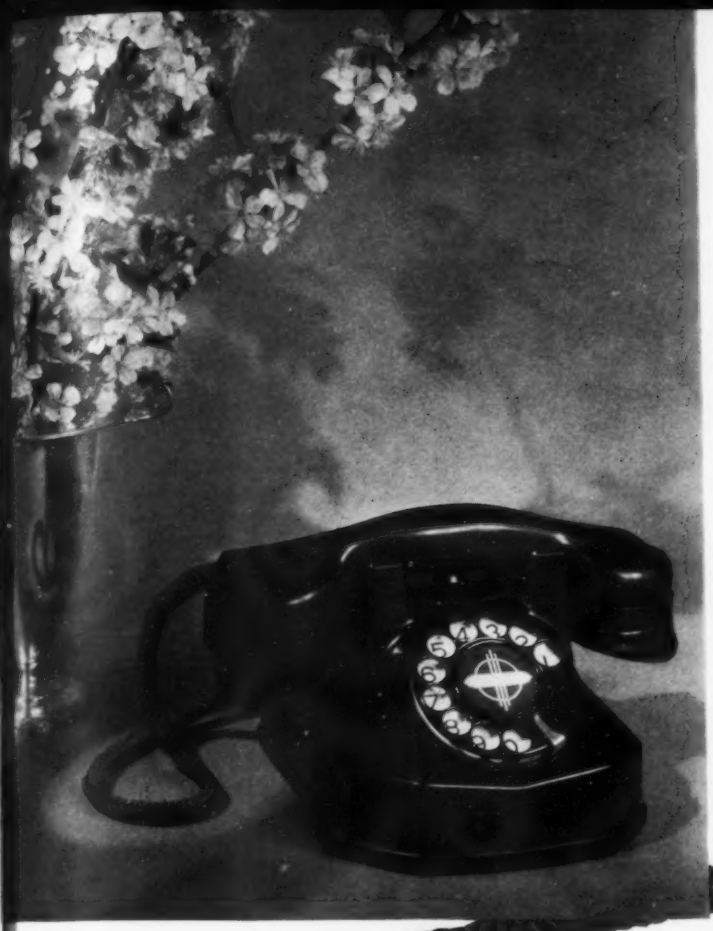


Fig. 116. Method of Finding the Length of a Curve.



NOW... a telephone cord of GRACEFUL APPEARANCE!

NEW E-X-T-E-N-S-I-C-O-R-D FALLS EASILY AND NATURALLY INTO A GRACEFUL-APPEARING CURVE

Here, at last, is a cord that presents an appearance in harmony with the modern handset telephone!

No more do ungraceful loops and unattractive kinks detract from the modern handset. The new E-x-t-e-n-s-i-c-o-r-d falls easily into a relaxed and thoroughly graceful-appearing curve. Also, due to the small space in occupies in its contracted form, it presents a neater, trimmer impression in keeping with the improved efficiency of the modern phone.

Send for several E-x-t-e-n-s-i-c-o-r-d-s today! Show them to your subscribers—try one out on your own telephone—see if you don't agree that it's the most attractive, as well as the most convenient, cord you've ever used!

Specifications: Standard overall length (contracted form)—32 in. No. of cond.—3. Color—std. brown. Type of trim—std. spade terminals. Price (per above specifications)—$1.00 each f.o.b. Chicago. Price subject to change without notice. This Extensicord will fit all standard Monophone hand units and many other makes of handset telephones. Information regarding special lengths, trims, etc., supplied on request. Patented in U.S.A., Canada, and foreign countries.

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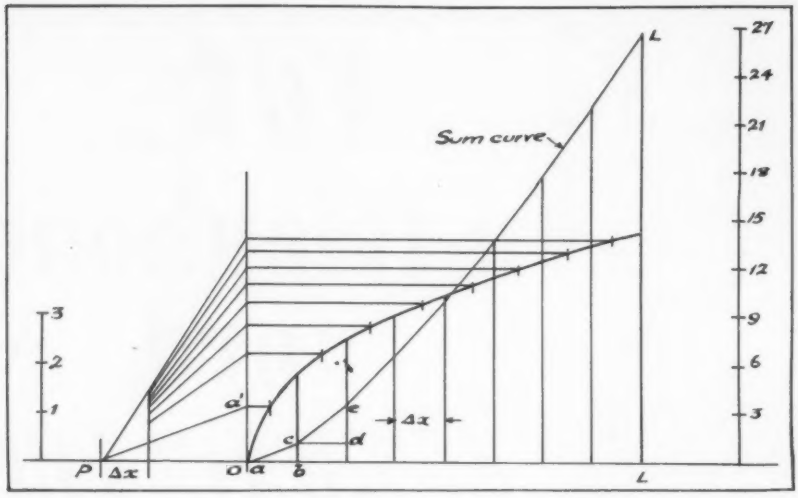


Fig. 117. Graphical Method of Integration.

But Oa′ × ab = area of strip and therefore,

area of strip = OP × bc,

or bc = area of strip/OP

Similarly, de = area of strip/OP

This holds throughout for the successive ordinate differences of the sum curve and the final ordinate LL of this curve is the total of

(bc + de + ...)/OP

By multiplying the vertical scale of the primitive curve by the horizontal units in the length OP, as shown by the scale at the right in Fig. 117, the area of the lower curve at any point can be read directly by projecting this point on to the slope scale.

▼ ▼

CARMODY, TARGET OF PROTESTS

(*Concluded from page* 13)

established during the past 11 years and recognized by our regulatory commission and courts will meet with serious opposition from the companies operating in Minnesota."

The Kansas Telephone Association, in a letter to member companies under date of June 24, says:

"REA projects have justed started to develop in Kansas. Only four applications have been made to the Kansas Corporation Commission. Three of these applications have been granted, while the fourth is pending.

These applications have been handled according to the commission's routine the same as any private power company. The projects will be required to submit plans and specifications of all construction and must comply with the wire stringing rules issued by the commission under its docket No. 1944. . . .

Our Kansas Corporation Commission has recognized the responsibility of inductive interference and has the authority to regulate the construction of wire-stringing utilities for satisfactory communication and power service, including the factor of safety and the obligation of all parties concerned."

In a letter to secretaries of telephone associations of adjoining states, Secretary Charles C. Deering of the Iowa Independent Telephone Association refers to the order of the Iowa Railroad Commission granting a power company permission to install multiple grounds on primary neutral wires for two years pending final determination by the commission, providing the power company complies with the commission order of December 30, 1916, and makes financial settlement with communication companies whose circuits will be exposed to interference before starting construction (TELEPHONY of August 29, 1936).

"Apparently our commission," wrote Mr. Deering, "is not disposed to change its stand in this interference matter and believes that the grounded telephone lines are entitled to some measure of protection."

In the press release of June 19 which contained Administrator Carmody's startling ruling, reference was made to the claim of the Commonwealth Telephone Co., Madison, against the Richland Center rural cooperative. The REA states that the Richland Center cooperative had agreed to pay $267 for physical changes in the telephone company lines and that the agreement had been signed.

Then the Commonwealth company, the REA states, withdrew its signature and put in a claim of $6,008 as compensation for metallicizing 164 miles of line to eliminate inductive interference. This claim was turned down by the REA and Administrator Carmody issued his ruling that the REA would not pay any modernization costs.

While TELEPHONY does not have information from the Commonwealth Telephone Co. concerning this case, it may be assumed that the company acted in accordance with the procedure approved by the Wisconsin Public Service Commission last April for the allocation of costs in such a case. General Manager F. H. Runkel of the Commonwealth company is a member of the Wisconsin Committee for the Coordination of Supply and Communication Facilities, appointed by the Wisconsin commission.

Without an analysis of the costs comprising this claim of $6,008 for metallicizing 164 miles of line, telephone managers will state that a cost of $36.60 per mile is extremely low for rebuilding grounded circuits, and that there are always two sides to a story.

But regardless of the merits of this Wisconsin case, through his seemingly off-hand ruling issued without becoming advised of actual conditions, apparently, Administrator Carmody has stirred up the real small telephone companies and aroused the ire of thousands of telephone subscribers in the rural territory of the Middle West who are much attached to their grounded line service because of its cheapness.

Undoubtedly Mr. Carmody, after being presented with all the facts, will rescind his ruling. Certainly he could not successfully contest the various court and state commission decisions and rulings against private power companies in similar cases.

▼ ▼

Vacation Ads Discuss Michigan's Attractions

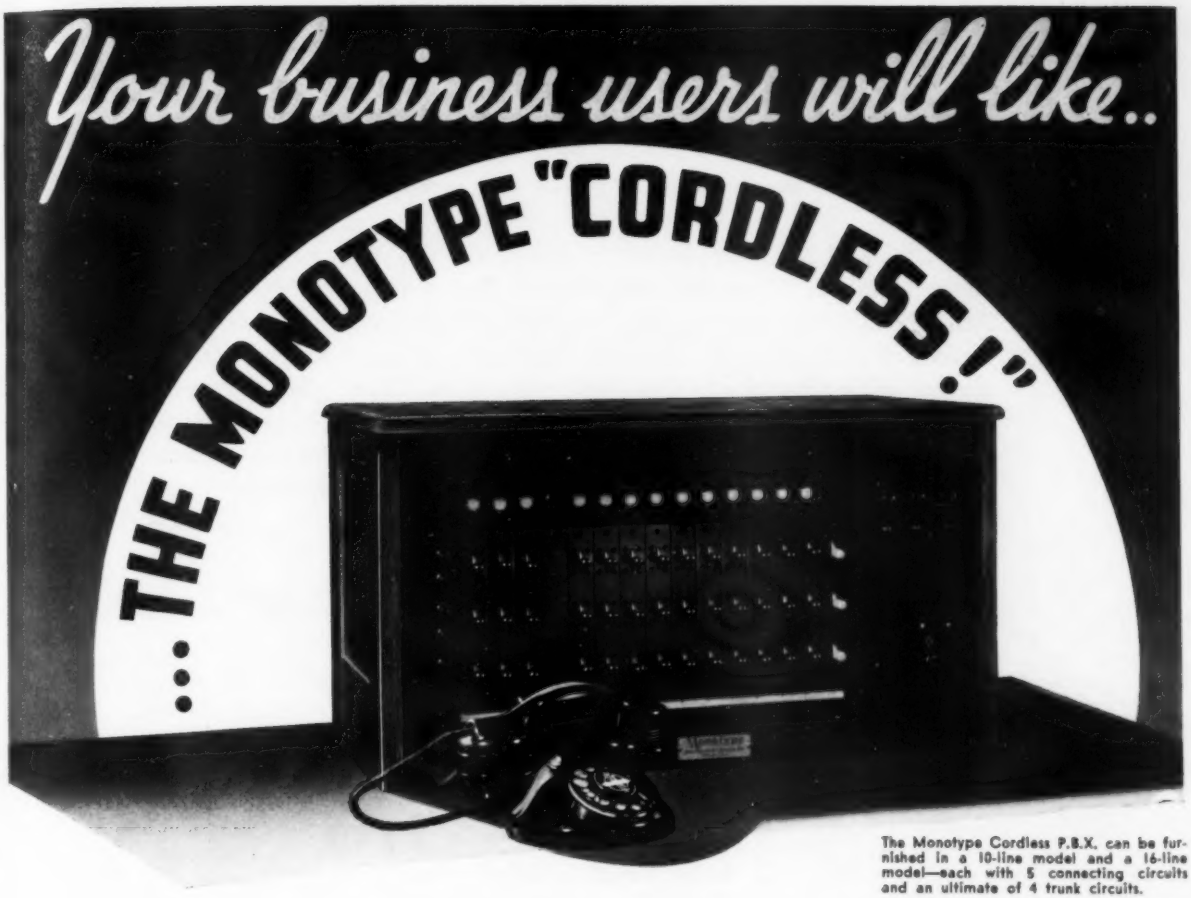
Newspapers of Michigan are publishing a series of advertisements of the Michigan Bell Telephone Co., calling attention to the advantages of that state as a place to live, work and play. Such a series of ads is now being used for the tenth consecutive season.

The series of Michigan advertising this year contains particular reference to some of the agencies that helped develop Michigan's scenic beauties.

Some of the titles of the advertisements read: "Vacation Fun Goes Hand in Hand With Michigan," "There's a Michigan Trail a-Winding," "Safe Driving Will Mean Happy Vacations."

Your business users will like..

...THE MONOTYPE "CORDLESS!"



The Monotype Cordless P.B.X. can be furnished in a 10-line model and a 16-line model—each with 5 connecting circuits and an ultimate of 4 trunk circuits.

The trim, modern appearance of this Monotype "Cordless" P.B.X. will please your business subscribers. So will its easy, dependable operation—so simple that a few minutes' instruction will enable any girl to set up connections with the speed and skill of an expert.

Placed on the corner of a desk, the Monotype Cordless requires only part-time attention—permits a stenographer to continue her usual duties. The wood cabinet is designed to lift off easily, providing instant, easy accessibility as well as simplifying the interchange of cabinets where a different finish is desired.

From every standpoint, this Monotype Cordless represents the best buy among small P.B.X.'s today. Investigate its many exclusive features, now—full details gladly furnished upon request.

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IN THE NATION'S CAPITAL

By FRANCIS X. WELCH

Special Washington, D. C., Correspondent for TELEPHONY

REPORT ON BELL DEPRECIATION ACCOUNTING made in FCC investigation. Blomeyer articles on depreciation published in TELEPHONY complimented as "best available presentation" of views of Independent industry. New depreciation formula introduced under name of "Osculatory Survival Rate." Recent hearings in Bell investigation discuss matter of Bell System control. Comments on REA Administrator Carmody's ruling on claims by grounded lines for damages by inductive interference

IT WAS an interesting critique that the FCC investigation engineers, Cyrus G. Hill and S. B. Hansell, made of Bell depreciation accounting and accrual practices during the past 30 years under the ostensible supervision of the Interstate Commerce Commission. The evidence, introduced in the form of exhibits at recent hearings, was to the general effect that the ICC, whether too preoccupied with the arduous task of railroad regulation or for other reasons, just about allowed the Bell to write its own ticket on depreciation accounting, and the Bell took full advantage of it.

To be specific, Mr. Hill shows that the Bell System depreciation expense for 1936, based upon its annual stockholders' report for that year, was $161,000,000, or a little less than a fourth of its total operating expenses ($659,000,000). The accrued depreciation reserve was said to be $1,000,250,000, or about 26.5 of a total telephone plant investment of $4,259,000. (This was further revised to 28 per cent through an adjustment of depreciable property investment.)

THESE COMMENTS about Bell practice should be especially interesting to the Independent telephone group because Mr. Hill pointed out that the same straight-line accrual depreciation methods which the A. T. & T. succeeded in having the ICC adopt were disapproved by state commissions, railroad companies and power companies and last, but not least, the Independent telephone industry. He paid special compliment to the series of articles in TELEPHONY written by E. C. Blomeyer, vice-president of the Theodore Gary & Company, as being "the best available presentation" of the views of the Independent industry.

Mr. Hill concurred with Mr. Blomeyer's written conclusions that the Bell straight-line depreciation formula was not only too much unnecessary work for the average Independent telephone company, but also too inflexible with respect to varying local operating situations.

There was also a third objection to the long-range forecasting span employed for estimating depreciation on equipment in an industry where technique and other factors are changing so constantly that so-called average life and salvage estimates finally amount to little more than guesses dignified by the accoutrements of accountancy.

In contrast with this picture of past Bell practice, Mr. Hill pointed to the depreciation accounting more recently ordered by the Federal Communications Commission to which Independents raised no serious or fundamental objections — certainly not as much as they have to the old Bell practice of rigid straight-line depreciation based upon life-table expectancies which very often fail to materialize.

In general, Mr. Hill favors a depreciation formula, endorsed by the FCC investigation staff, which would make an annual depreciation rate for telephone companies (charged to operating expenses, of course) equal the original cost of the property less the depreciation reserve requirement and net salvage; the remainder to be divided by the unexpired average life.

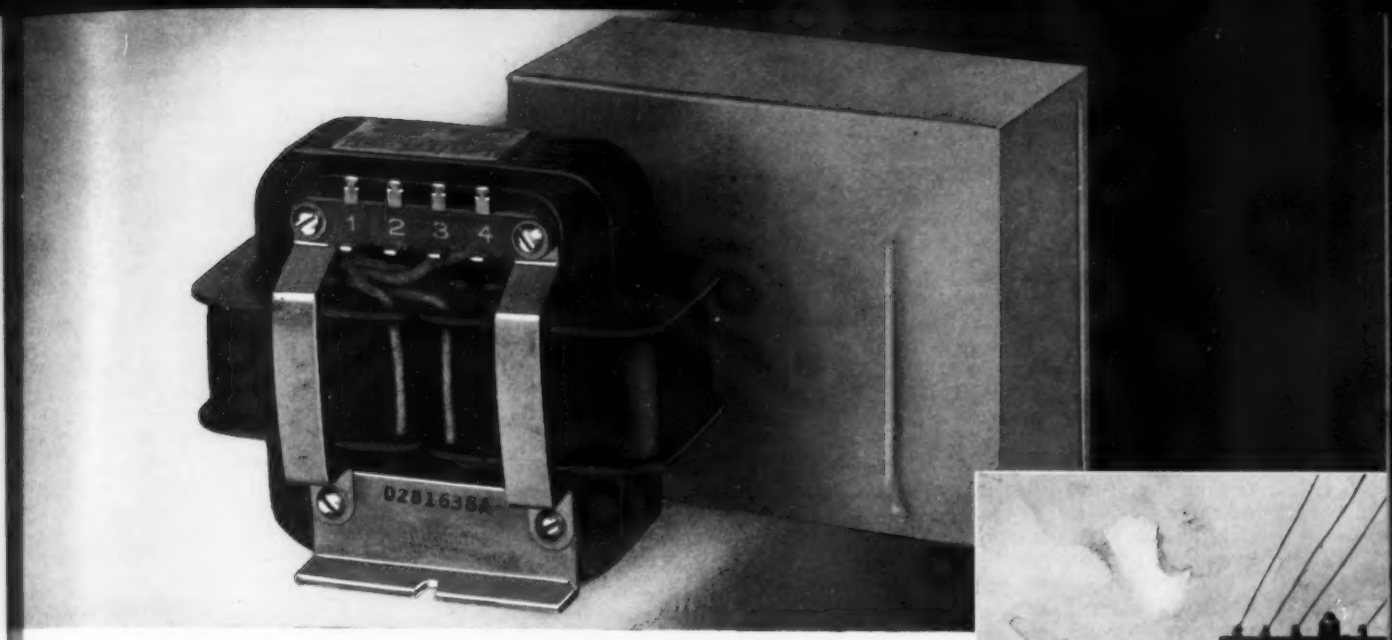
He was somewhat reticent, however, about the interesting specific depreciation formula produced by his colleague, S. B. Hansell, under the somewhat pretentious name of "Osculatory Survival Rate," although Mr. Hill did, upon direct question, state that Mr. Hansell's plan had his personal endorsement.

IT IS RATHER difficult to give even a thumbnail sketch of Mr. Hansell's Osculatory Survival Rate in crystal-clear and simple language, with due regard to brevity and the hot weather, but here goes:

First of all, don't be misled by that word "osculatory." Mr. Hansell's plan has nothing to do with kissing. It is used in the mathematical or, to be more precise, in the geometrical sense of curves contacting one another at three or more points. The relevancy of the term in this sense is more or less apparent when we consider Mr. Hansell's approach to the problem.

Mr. Hansell's approach in turn may best be explained by his own background as actuarial expert with Swedish and American life insurance companies. The trouble with the inflexible straight line depreciation of the Bell System, says Mr. Hansell, agreeing with Mr. Hill, is the fact that there are too many "variables" in the "normal" useful life of telephone plant property to make it pan out according to estimates of average life expectancy.

There is not only the possibility of abrupt physical aberration (such as fire, flood, tornado, etc., the highly unpredictable technical phenomenon of technical obsolescence, and somewhat more predictable phenomenon of population shifts and changes) but also changing general economic and even political tides which may upset all the learned theories about



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how long, on a general average, certain telephone plant ought to be used and useful.

MR. HANSELL seems to have used his life insurance actuary technique as the basis for his formula. Take the average human being of 21 years of age in a fairly healthy locality—let us say, Maine—and test him out for defects. All vital organs are checked OK and general health is fine. Now, to arrive at the average life expectancy, we check all the things that can possibly happen to a healthy young fellow in his position.

There are divisions and subdivisions of possible causes of death: some are occupational, such as lead poisoning; some constitutional, such as tuberculosis, and some purely accidental, such as getting killed in an automobile crash. By a mathematical formula, somewhat baffling to the layman, these different hazards are given proportionate weight, based upon experience; and from a coincidence of the curves thus superimposed, a tentative forecast of expectancy is made.

However, as most of us know, life insurance companies have to revise, reappraise, and readjust their various life tables constantly. Not long ago it was found, for example, that folks retiring on annuities lived longer than the average life expectancy of corresponding ages determined from the lives of folks who did not have annuities to ease their declining years. These periodic revisions are all accounted for in the provisions for periodic adjustment of the different life curves.

Now Mr. Hansell noticed, or thought he noticed, a similarity between these methods of deriving life tables for whole groups of humans and the derivation of an age distribution of telephone plant retired for different causes or complication of causes. The analogy struck him as the answer to the objection that the old Bell practice was too inelastic to work efficiently in actual telephone practice.

Telephone plant units are retired for different reasons, (1) predictable, (2) unpredictable, or (3) quasi-predictable; just as a man will surely die of silicosis if he works as a sandblaster long enough, is very likely to die of liver or kidney trouble if he keeps emptying whiskey bottles every day of his life, and may possibly go to his reward by slipping on the soap in the bath tub.

What is more, Mr. Hansell shrewdly noted that the so-called functional depreciation of coordinated plant units in actual operation introduces additional (or diminishing) factors of hazard or deterioration; just as in the case of human beings with relation to their living environment. Like the historical case of the two Kilkenny cats, their age outlook considered individually is something quite different from their prospects when placed in the same locality.

IN SHORT, Mr. Hansell's plan for having life tables based upon the coincidences or mathematical kissing of these "variables" upon adjustable charts is supposed to give a more accurate and controllable forecast of plant life outlook for depreciation purposes. Or, to use Mr. Hansell's own words:

> Considering one cause or group of causes, one of the life tables will be consistent with the major plant movements. The selection of the correct life table from the family representing the general mortality laws can be made from the functional expressions of the life curves, by the solution of the system of equations containing the same number of parameters as there are causes of retirement.
>
> The values of the parameters so determined, when substituted into the functional expressions, indicate the life table characterizing the mortality activity of the class of plant in question during the period. The mortality law describing a family of life characteristics may vary slightly with the mortality period studied.
>
> Such variations will generally be absorbed by the value of the parameter and the effect will be reflected in the choice of the curve to represent the period in question. For large variations, it will be necessary to reconstruct the family of curves to conform to new conditions, which are expected to be typical of the period of application.

That is pretty heavy going for folks like your correspondent, who has a hard job making his own check stubs come out even with the bank balance; but the whole discussion seems to be toward more flexible computation of depreciation rates, with shorter range forecasts and more attention to variations dictated by economic disturbances. It may well be that Mr. Hansell really has something there, even if Bell statisticians do tremble indignantly at the idea of somebody tearing up or "adjusting" their plant unit life tables every so often.

CONSIDERED as a whole, the recent hearings of the special investigation were given over mostly to the washing of various pieces of Bell family linen—some of it pretty ancient. There was, for example, the interesting but scarcely startling description by Dr. N. R. Danielian of the Five Ages of Bell System control: (1) The original ownership control; (2) directorate control; (3) banker control; (4) Post Office control during the war period; (5) the present "management control."

This last method of control, claims Mr. Danielian, is practically self-perpetuating, Mr. Gifford, the present head, having been selected as crown prince in a managerial dynasty that is too strong to be displaced or even disturbed by the great unorganized mass of outstanding stock owners.

The implication seems to be that when a corporation gets so vast (and the Bell is the greatest in the world), it is practically impossible for minority groups of stockholders to check management even mildly. The most exhaustive and expensive campaign for revolting proxies would scarcely produce a ripple in the mass inertia of the vast army of contented coupon clippers.

However, the best answer to that question, if it is a question, would be to ask the man who owns one—a share of A.T.&T. Co. He'll probably say, "So what?" And, in truth, as long as he gets his dividends regularly and is satisfied, it is hard to see why outsiders should bother.

OUTSIDERS do, of course, have a definite interest in good service at reasonably low rates; and that is what regulatory commissions are for. Incidentally, it was from this angle that, it must be conceded, the FCC special staff made its best showing. It does appear, from the ex parte evidence at least, that the Bell System has in the past accrued more depreciation than was strictly necessary or—for that matter—ever actually used for plant replacement purposes.

As excessive depreciation accrued has the automatic effect of making subscribers indirectly finance capital investment through charges to operating expenses (in addition to providing a presumably fair return on actual company investment), it would seem that subscribers have a legitimate kick coming and that reforms looking to a fairer adjustment of depreciation charges are in order.

However, these concluding special investigation hearings ran into their old trouble of heavy competition as far as immediate publicity is concerned. With labor news and international troubles hogging the headlines, the press has practically ignored the hearings altogether.

(*Please turn to page* 27)

...ephone communications are in the forefront of ...ndon's public services. No other utility has made ...ater advances, or received closer attention from ... Administration responsible. The British Post ...fice introduced automatic telephone service a num... of years ago, and has continued the process of ...omatisation with commendable thoroughness. To ...hieve such steadily sustained progress standardisa... was necessary and the Strowger system was se...ted as standard for all future use.

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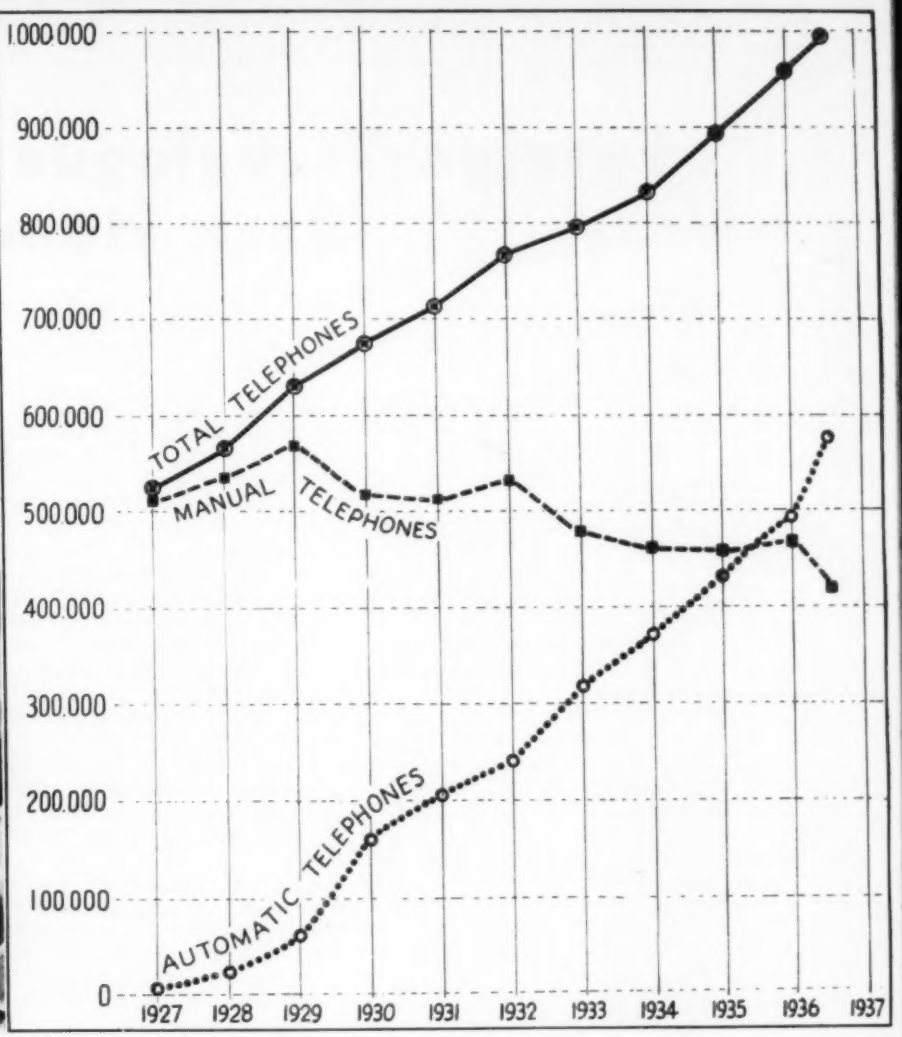

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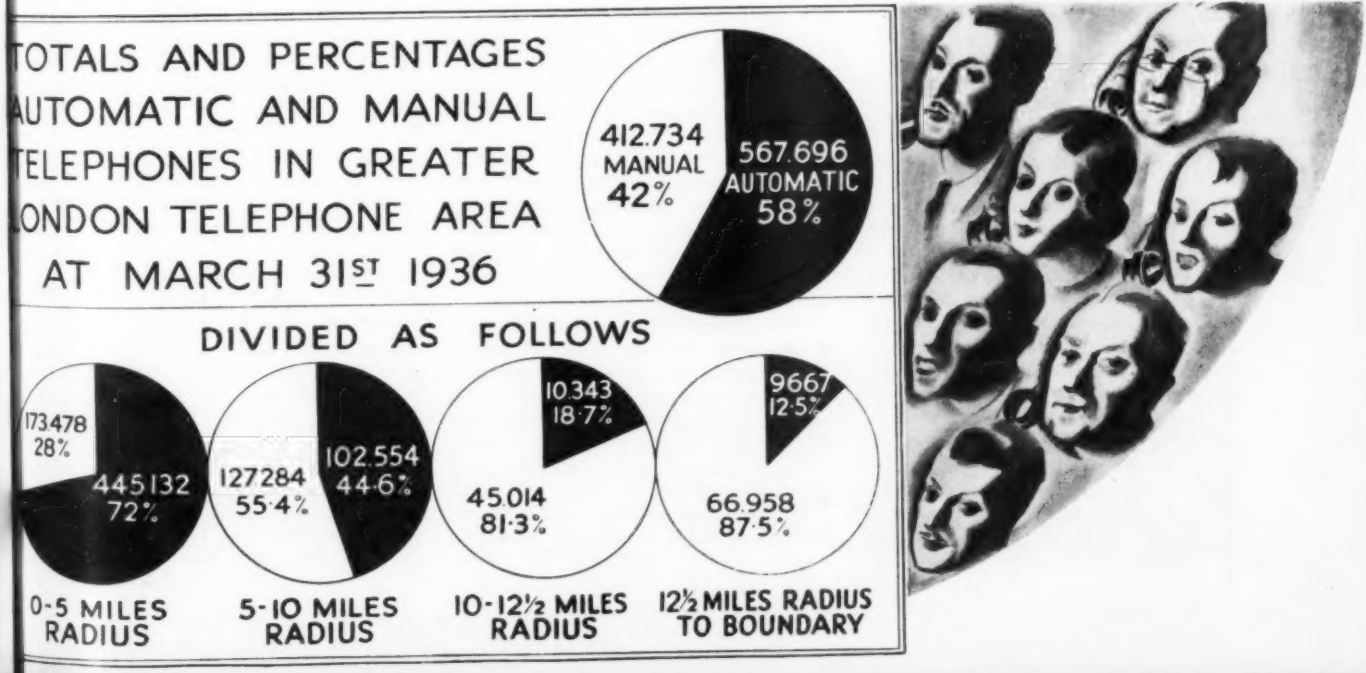

Foreign Travelogue to Friends "Back Home"

By J. H. AGEE
President, U. S. Independent Telephone Association

Nice, France
June 10, 1937.

Stanley R. Edwards,
Editor, TELEPHONY,
Chicago, Ill.

Dear Stanley:

In France seven days, and already I have the shrug of the shoulders, the shake of the head and the wave of the hands which indicate the genuine Frenchman.

Almost the first impression which I received as we rode across from Paris to Nice—700 miles—was of the permanency of this country. What a grand place to study depreciation! If Ed Blomeyer and his committee on depreciation could just examine France and set up annual charges which we could use in America, using the straight-line method for some of this French property, it might be worthwhile.

I have a real problem in depreciation for Ed's committee which I will propound in the latter part of this letter—but first I must describe a little of our trip. We landed at Le Havre Friday evening, June 4. The docks at Le Havre are the most modern and impressive that I have ever seen. Loading and unloading of freight is done with great steel cranes, swinging from revolving turrets on steel towers. We watched them unload a big tractor from boat to dock in less than two minutes.

The gang planks for passenger boats are all attached to these same steel towers and operate automatically and quickly. The largest boats in the world dock here. Getting through the customs was very easy except for an unnecessary confusion finding our luggage; no method or efficiency in unloading and identifying baggage.

We stayed overnight in Paris but as our itinerary brings us back to Paris for a week the first part of July, I will make no comment now on that famous city.

After a Continental breakfast of black, bitter coffee and rolls, we left by train for Nice. It was a beautiful morning—sun bright, skies blue, air balmy and the scenery really marvelous. These French trains are not so bad either. They hurry right along, making 50 to 60 miles per hour and through a country old and rich in tradition beyond anything we Americans know.

Think of it! Here is a country which has been occupied and settled for more than 2,000 years. Before the Christian era began, southern France was an old country—and yet we see from the train, farms producing abundant crops of wheat, oats, clover, garden truck of all kinds, fruit and vegetables of every variety, and everything grows luxuriantly. No sign of soil depletion—even the steep hillsides are growing great vineyards and row crops of various kinds.

We notice the houses, mostly of stone or cement with tile roofs. Pole lines of the power companies are concrete or steel. We abandoned concrete poles years ago because of their weight and cost of installation, but here permanency seems to be the principal object of construction.

In the cities many telephone and light poles are set on top of the pavement, bolted tightly to heavy steel angle irons which are set in the pavement. It will be many years before such poles rot off at the ground line.

Of course, the methods of farming seem very crude. Near Paris the favorite method of cultivation is with a big fat horse, wearing an enormous collar and pulling a tiny cultivator. Women were seen working in most fields. Rye was being cut with scythes. Farther south the beast of burden is the ox. Usually a team of white or tan-colored oxen pulled plows, hauled big-wheeled carts of hay or wagonloads of wood. Still farther south the stubborn donkey and burro appeared as the main source of power.

But the entire landscape of France is beautiful in June. "In Flanders fields the poppies grow"—all through the countryside in the prairie grass or along the roadside are the brilliant scarlet poppies. Trees, shrubs, flowers, everything is beautiful beyond description, in June.

We follow the valleys of the Pyrenees mountains. Scenery is glorious! We stop at Lyons, famous for its silk industry; at Bordeaux, equally famous for its wine; at Valence, once a lace center; and come to Marseilles located on the Mediterranean Sea.

Books have been written about this city, second in size to Paris. Think of its age! Captured by the Carthaginians in about 585 B.C., and an old city then; taken by Julius Caesar in 49 A.D. and made part of the Roman Empire. There are buildings here, particularly monasteries, centuries old. But we go on to Nice, the Atlantic City of France.

Located on the famous Riviera it is an all-year-round resort. It is both ancient and modern. The wealth of the world has wintered here for many years. The kings of all European countries have had winter homes here at various times, and some of the Vanderbilts and the Goulds built beautiful homes.

The city claims 250,000 people. Telephone service is dial — has been since 1910. The government owns the system and, like most government-owned properties, it is operated at low rates and only a fair grade of service. The French telephone is a clumsy-looking affair, but I've talked several times over it and transmission is reasonably good.

I visited the exchange today. It is new and compares well with our American exchanges. Did I say rates are on a measured basis? One-half franc per call (about 2½ cents).

Well, this letter is long enough, but I must propound my depreciation problem for Ed Blomeyer's committee. You see the principal attraction at Nice is the marvelous water-front. Here along the Bail des Anges (Bay of the Angels) is the grand Promenade des Anglais (Walk of the English). It extends some four or five miles along the Mediterranean. Dozens of hotels face on it. Perfectly gorgeous parks border it. In the evenings these fine French folks stroll along—singing, laughing, talking—everybody happy.

Toward evening yesterday I found myself, wife and son walking toward the Promenade to see the beauties of the sun setting over the smooth sur-

face of the sea. Mrs. Agee is tired—I rent a chair for her from a porteur for 50 centimes (2½ cents). Richard stops at a stand to buy postcards to mail back. I stroll alone down the beautiful promenade by the side of the Mediterranean.

Soon I see approaching a young lady—she is blonde, a cute little hat over one ear, a tiny parasol over one shoulder, a flowered dress. She is chic. As she comes nearer, she tosses her head and smiles—such a beautiful smile. Then she looks at me and says: "Bonsoir, Monsieur, commet allez-vous? Pouvez-vous diner avec moi?"

If your French is a little rusty, Stanley, that means, "Hi, boy—how about a bite to eat?" Well, Stanley, I am embarrassed. I stop and look, then I blush—I hardly know what to do, Stanley, but suddenly I remember Mrs. Agee. Maybe the rent on her chair is up—and I say quickly: "Oh, non, non, Mademoiselle, vous etes tres amiable. Un autre jour. Quelle est votre adresse?"

That means, Stanley: "I am sorry, madam, I can't. What is your telephone number?" But I hurry back to Mrs. Agee and Dick.

The question for Ed's committee is this: "How much does a man depreciate in 50 years?"

▼ ▼

IN THE NATION'S CAPITAL

(*Concluded from page* 22)

Maybe the FCC special staff will have a little better publicity luck when they publish their final reports on the investigation.

SOME FRIENDLY readers of this department who were especially interested in your correspondent's comments on REA Chief Carmody's recent complaint about alleged unwarranted telephone claims for damages due to inductive interference, have directed attention to the fact that some of the rural power lines the cooperatives are building, or planning to build, are not so streamlined or modernized from an engineering point of view as REA would infer.

In fact, one letter goes so far as to say that the new rural power lines are just as backward in engineering practice as a Model T Ford, and that REA criticism of old-fashioned and out-of-date rural telephone lines is another case of the pot commenting on the complexion of the kettle.

It is perfectly obvious, of course, that where rural power line operators make the same use of Mother Earth to complete circuits as the telephone company, they can scarcely complain of telephones wanting a monopoly of the earth's services.

The trouble is that it is telephone service that is interfered with—not power service. The REA power line managers would be perfectly willing to let the telephone companies keep their ground circuits and do likewise themselves; but there's the rub—it won't work; at least, the telephone end of it won't work.

MAYBE SOME BETTER legal analogy could be worked out along the lines of the rights of riparian landowners to the flow of a stream past their property—*as it has always flown.* There are pages and pages of case law to the effect that when a new property owner on the bank of a stream (or, for that matter, an old owner making a new use of the water) does something to the water that changes its character so as to injure or destroy normal riparian privileges which bank owners farther downstream have always enjoyed, the party engaging in the new practice may be held answerable, either in injunction proceedings or damage suits, or both.

Most of these cases involve situations such as a mill discharging chemicals or other matter into a stream which kills the fish or pollutes the water for irrigation purposes. Under such circumstances, down-stream bank owners have been upheld in the courts, even though the stream itself was not their property.

Is the situation of a grounded circuit telephone system very much different? Granted that the telephone company does not own the earth through which it sends its impulses, nevertheless, it has for years made a not abnormal use of the earth which the power lines are free to imitate if technical precautions were taken to avoid interference.

But when the power companies proceed to charge the earth with energy in such a form as to destroy the older use made by the telephone companies, are they not like the mills that discharge poisonous chemicals which destroy the fish that have always flourished in a stream?

There may be some legal flaw to this analogy, but as a matter of commonplace fairness, it does seem to command some consideration.

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Michigan Convention Set for July 28 and 29

The Michigan Independent Telephone Association will hold its second annual convention at the Olds Hotel, Lansing, July 28 and 29.

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Depreciation Enters Bell Inquiry; Important to Independents

A DOCUMENT that may have important bearing upon the course of depreciation accruals, reserves and accounting by telephone companies, and especially by Independent telephone companies, was presented to the Federal Communications Commission June 17 by Cyrus G. Hill, chief engineer of the investigation being made by the commission of the American Telephone & Telegraph Co. and affiliated companies. Mr. Hill, assisted by Investigation Engineer S. B. Hansell and others, has been making a study of the depreciation question for the commission for a number of months.

His report to the commission consists of three large volumes totaling almost 500 pages. It contains not only a comprehensive history of the development of the theory of depreciation in the telephone industry, but also certain important recommendations with respect to compliance by the Federal commission with that part of the Federal Communications Act of 1934, which requires the commission to prescribe percentages of depreciation on telephone properties.

Mr. Hill's report also criticizes the methods of the Bell System in providing for depreciation, and one section of the report outlines a new theory of depreciation computation known as the "Osculatory Survival Rate."

THIS REPORT is of great interest to all Independent telephone companies because, in general, he subscribes to certain theories on depreciation that have been the belief of the Independent industry for many years. These theories were outlined in a series of four articles written by E. C. Blomeyer, vice-president of Theodore Gary & Company, and published in TELEPHONY in the summer of 1935.

In July, 1935, the first two of these articles were published under the title, "The Long, Long Depreciation Trail," and the remaining two articles in August were under the title, "The I. C. C. Depreciation Formula and Its Effect Upon Independent Companies." In his report Mr. Hill quotes at length from Mr. Blomeyer's articles, some seven pages of the report being devoted principally to verbatim quotations from the articles in which the author developed points of importance to the Independent telephone companies.

A major point made by Mr. Blomeyer in these articles was that the formula for determining the cost of depreciation which has been set up by the Interstate Commerce Commission for the use of telephone companies was not practicable because it did not give proper recognition to the fact that the most important part of the cost of depreciation is obsolescence and inadequacy, which cost cannot be determined by a formula based merely on the estimated service life and salvage value of parts of the telephone plant.

The past, stated Mr. Blomeyer, could not possibly be any guide to the future cost of obsolescence and inadequacy. His conclusion was that the amounts to be accrued by a telephone company out of its income as a provision for depreciation would necessarily vary from time to time and in different accounting periods.

Any formula, he declared, which required a telephone company to take out of its income and set aside for depreciation the same amount year in and year out over the life of the telephone plant could not possibly be correct for each year and, therefore, the amount to be reserved for depreciation should be flexible and should also be subject of determination by the management of the business rather than being a ritualistic formula.

IN HIS REPORT Mr. Hill proposes what in substance might be called "Base Rate" of depreciation, the amount of which would be based entirely upon the estimated service life and salvage value of the property, and the accruals for which would be intended to cover only the cost of depreciation arising from deterioration. He suggests that this base rate shall be determined only for a reasonable period in advance and that it be changed in accordance with changes in the plant or other changes which would affect this rate.

In addition to this base rate, Mr. Hill proposes that telephone companies also make provision for obsolescence and inadequacy. The amount of this provision would be determined largely by the management of the company, and the two items added together would constitute the total amount the company would accrue out of income for depreciation over a given accounting period.

The significance of the proposed plan is that during times of depression—when obsolescence and inadequacy will to some extent, if not entirely, be arrested by the financial or other inability of the companies to replace important parts of the plant—the amount required to be accrued for depreciation would be low, since it would only be the amount necessary to cover the natural deterioration of the property. In more prosperous times, however, when the plant is being modernized, the amount to be accrued out of income for depreciation would be larger because there would then be necessary a provision for taking care of obsolescence and inadequacy.

Mr. Hill comments in his report upon criticism, in the articles referred to, of the so-called ICC depreciation formula to the effect that the use of such a formula for the purpose of determining the whole cost of depreciation

tion deprives not only the telephone companies themselves, but also all regulatory commissions, including the state commission, of any discretion in the matter.

In the articles in TELEPHONY the author stated in effect that if so rigid a formula had been applied during the depression, it would have resulted in the bankruptcy of a number of Independent telephone companies because they would have been unable, after making such provision for depreciation, to have met their bond interest.

Mr. Hill, in effect, characterizes the so-called ICC formula as one devised by the Bell Telephone System. He criticizes the Bell System depreciation accounting methods on the grounds that they serve to build up large depreciation reserves which will never be needed; that it is impossible to forecast with any degree of accuracy the total life of telephone properties or the salvage recoverable thereon over a long period of years; and that the uniform depreciation rates created by the formula are inflexible and do not follow actual variations in the rate of depreciation of a telephone company.

The first volume of Mr. Hill's report is devoted to the question of depreciation accounting methods and the objectives of depreciation accounting. The second volume discusses depreciation engineering methods, the average service life and salvage value determinations, and depreciation rate calculations. The third volume outlines the application of the depreciation engineering methods described in the second volume to a specific example of telephone plant for which purpose the exchange underground cable and station apparatus of the Mott-Haven-9 central office of the New York Telephone Co. were used.

It is assumed that before the FCC issues any definite orders applying to all telephone companies with respect to depreciation accounting, the Independent companies will have an opportunity to present their views on the question, either in hearings before the telephone division of the FCC or by briefs on the question.

In preparation for this the United States Independent Telephone Association recently created a special committee on depreciation and this committee is now preparing data on the subject for the use of the association. A reprint of the four depreciation articles by E. C. Blomeyer referred to in the foregoing has recently been circulated to all of its members by the United States Independent Telephone Association.

▼ ▼

First Operators Union Set Up in Wisconsin

The first charter in Wisconsin for a telephone operators' union was initiated at Janesville June 24, according to Assemblyman Ben Rubin (prog., Milwaukee), an AFL organizer. At the same time, he said, charges were filed with the National Labor Relations Board against the Wisconsin Telephone Co.

The charges, filed by Edward J. Brown, a vice-president of the International Brotherhood of Electrical Workers, AFL affiliate, allege that the company interfered with employes' entering a union of their choosing and tried to form company unions.

Mr. Rubin declared that the telephone operators union has obtained 90 per cent membership in Janesville. Mr. Brown also is a member of the University of Wisconsin board of regents.

▼ ▼

Picnic Held by Ohio Department Employes

Attaches of the public utilities department of Ohio including members of the commission and employes in the various divisions, recently held their annual picnic at the Lancaster Country Club, Lancaster, Ohio, 30 miles south of Columbus. The outing was attended by a number of guests including representatives of various telephone companies and other utilities.

▼ ▼

Recent Prices in the Metal Markets

New York, N. Y., June 28: Copper steady; electrolytic spot and future, $14.00; export, $14.10@14.12. Tin barely steady; spot and nearby, $57.00 @57.12½; future, $56.62½@56.75. Lead steady; spot New York, $6.00@ 6.05; East St. Louis, $5.85. Zinc steady; East St. Louis spot and future, $6.75. Iron steady: No. 2, f. o. b., eastern Pennsylvania, $25.00; Buffalo, $24.00; Alabama, $20.00. Aluminum, $20.00@ 21.00. Antimony, spot, $14.50. Quicksilver, $97.00@99.00. Platinum, $52.00.

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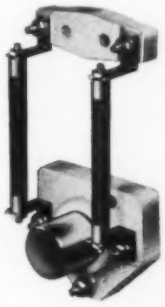

This popular type of indoor protector consists of two blocks of porcelain—the line end being equipped with fuse clips only while the other end has fuse clips, ground connection and a well for the discharge blocks. Regularly equipped with seven-ampere, fiber-type fuses with nutted ends, and Type 2105 discharge blocks. Write for further information regarding this and other Sands protective devices.

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Financial Operating News and Data

Recent Prices of Telephone Securities

(These quotations as of June 26, 1937, are supplied by Telephone Securities Corp., 120 S. La Salle St., Chicago, Ill.)

TELEPHONE BONDS

	Bid	Asked
American Utilities Service Corp., 6s, 1964	73¼	76½
Ashland Home Telephone Co., 4½s, 1961	102¼	..
Associated Public Utilities Corp., 5s, 1947	68½	71¾
Associated Telephone Co., Ltd., 4s, 1965	104	106¼
Associated Telephone & Telegraph Co., 5½s, 1955	78	82
British Columbia Telephone Co., 5s, 1960	105½	..
California Water & Telephone Co., 5s, 1965	99½	102¼
Central Electric & Telephone Co., 5s, 1955	96½	98¾
Central Iowa Telephone Co., 5½s, 1947	93¾	102¾
Central Telephone Co. of Delaware, 6s, 1938	13	16
Citizens Independent Telephone Co., 4¼s, 1961	100	103
Commonwealth Telephone Co. of Pennsylvania, 5½s, 1945	90	93½
Commonwealth Telephone Co. of Wisconsin, 4s, 1966	94	96¾
Community Telephone Co., income, 5s, 1949	23	28
Cumberland Valley Telephone Co., 5s, 1966	99	102
Florida Telephone Corp., 6s, 1945	91	93¾
Florida Telephone Corp., 6s, 1954, second mortgage	68	..
Gary & Co., Theodore, 6% income notes, $5 par	3	4
Home Telephone & Telegraph Co. of Fort Wayne, Ind., 6s, 1943	105½	..
Home Telephone & Telegraph Co. of Fort Wayne, Ind., 5½s, 1955	105	..
Indiana Associated Telephone Co., 4½s, 1965	103½	106
Indiana Central Telephone Co., 5½s, 1938	77	82
Illinois Communities Telephone Co., 6s, 1949	64	68½
Illinois Commercial Telephone Co., 5s, 1948	98	101
Illinois Commercial Telephone Co., 5s, 1960	98	100¾
Inland Telephone Co., 6s, 1948	92½	96
Interstate Telephone Co. of Idaho, 5s, 1961	98	100½
Interstate Telephone & Telegraph Co., 5½s, 1953	95	97½
Investors Telephone Co., 3s, 1961	51	54¼
Iowa-Illinois Telephone Co., 5½s, 1949	41	45½
Jamestown Telephone Corp., 5s, 1954	103½	..
Kansas Telephone Co., 6s, 1939	flat	40 ..
Keystone Telephone Co. of Philadelphia, 5½s, 1955	99	101
Keystone Telephone Co. of Philadelphia, 6s, 1951	99¾	101¼
La Crosse Telephone Co., 5½s, 1948	100	102
Lexington Telephone Co., 6s, 1944	99½	102¼
Lorain Telephone Co., 5s, 1958	101½	104
Michigan Associated Telephone Co., 5s, 1961	101½	103¾
Middle States Telephone Co. of Delaware, 6s, 1947	99	101¾
Middlewestern Telephone Co., 6s, 1943	76	79
Missouri Telephone Co., 4¼s, 1961	99¼	102
Ohio Associated Telephone Co., 4½s, 1966	96½	99
Ohio Central Telephone Co., 6s, 1947	95	98
Pennsylvania Telephone Corp., 4s, 1965	103¼	105
Pike County Telephone Co., 6s, 1946	flat	39 ..
Platte Valley Telephone Corp., 5s, 1947	99½	101¾
San Angelo Telephone Co., 5s, 1958	101½	..
Santa Barbara Telephone Co., 3½s, 1966	96½	100
Southwestern Associated Telephone Co., 5s, 1961	92	95
Southwestern States Telephone Co., 6s, 1948	62	65
Southwestern States Telephone Co., 6s, 1949	61	64
Standard Public Service Co., 6s, 1948	58	63
Telephone Bond & Share Co., 5s, 1958	74	77
Telephone Service Co., of Ohio, 5s, 1953	83	87
Tri-County Telephone Co., 4½s, 1956	101	102¾
United Telephone Co. of Delaware, 6s, 1948	88	92½
United Telephone & Telegraph Co., 5½s, 1953	100¼	102½
United Telephone & Telegraph Co., 6s, 1943	100¾	103
Wabash Telephone Co., 4½s, 1956	98¾	101¼
Warren Ohio Telephone Co., 6s, 1942	99½	101¾
West Coast Telephone Co., 5s, 1953	94½	96¾
Western Light & Telephone Co., 5s, 1954	100	102

PREFERRED STOCKS

	Bid	Asked
Associated Telephone Co., Ltd., $1.25	23	25
Associated Telephone & Telegraph Co., 7% first	41	45½
Associated Telephone & Telegraph Co., $6 first	40½	44¼
Associated Telephone & Telegraph Co., $4 cumulative	10	13½
Bell Telephone Co. of Pa., 6½% $100 par	112¼	114¾
California Water & Telephone Co., 6% $25 par	20	23¼
Central Electric & Telephone Co., $50 par	29¾	32¾
Community Telephone Co., $2 cumulative, no par	1¼	2¾
Commonwealth Telephone Co. of Wisconsin, 6% $100	93	96¼
Continental Telephone Co., 7% first	92½	96¾
Continental Telephone Co., 6½% first	89	93¾
Diamond State Telephone Co., 6½% $100 par	114¼	117¾
Empire Telephone Co., 6% cumulative class "A" $25 par	15½	18¼
Florida Telephone Corp., 6% cumulative $100 par	35	..
Gary & Co., Theodore, first $1.60 pfd.	3	4¼
General Telephone Allied Corp., $6 convertible	97½	100
General Telephone Corp., $3 convertible	47½	51¾
Home Telephone & Telegraph Co. of Fort Wayne, 7% $50 par	51	54
Illinois Commercial Telephone Co., $6	85¾	89½
Interstate Telephone & Telegraph Co., first pfd., "A" 6% pfd.	53½	58¼
Jamestown Telephone Corp., 5% cumulative, $100 par "A"	100	..
Jamestown Telephone Corp., participating pfd., $100 par	100	..
Keystone Telephone Corp., $4 cumulative, no par	21	24¾
La Crosse Telephone Co., 6% $100 par	94	98½
Lexington Telephone Co., 6½% prior	82	86½
Lincoln Telephone & Telegraph Co., 6% cumulative $100 par	105	..
Lorain Telephone Co., 6% cumulative $100 par	98	101
Middle States Telephone Co. of Illinois, 7%	93	97
Mount Vernon Telephone Co., 7% cumulative, $100 par	86½	91¼
New York Telephone Co., 6½% cumulative, $100 par	109	112
Northern Ohio Telephone Co., 7% cumulative	100	..
Ohio Central Telephone Co., 7% first	52	..
Ohio Service Holding Corp., $5 pfd., $5 par	42	45
Pacific Telephone & Telegraph Co., 6% $100 par	136	40
Peninsular Telephone Co., 7% cumulative "A"	108¼	10[illegible]
Pennsylvania Telephone Corp., 6% cumulative	106½	..
Rochester Telephone Corp., 6½% cumulative	111	13[illegible]
The Southwest Telephone Co., 7%	1½	3[illegible]
Southwestern Bell Telephone Co., 7% cumulative pfd.	117	20[illegible]
Telephone Bond & Share Co., 7% first	37	41[illegible]
Telephone Bond & Share Co., $3 first	24	29
Telephone Bond & Share Co., participating pfd.	18	..
Tri-State Telephone & Telegraph Co., 6% cumulative $10 par	10[illegible]	11[illegible]
Union Telephone Co., $1.70 pfd., $25 par	7[illegible]	9[illegible]
Warren Ohio Telephone Co., 7% $100 par	36	40[illegible]
West Coast Telephone Co., 6% $25 par	20[illegible]	23
Western Light & Telephone Co., $1.75 first, $25 par	20½	22[illegible]
Wisconsin Telephone Co., 7% $100 par	113½	116½

COMMON STOCKS

	Bid	Asked
American Telephone & Telegraph Co.	159	164
Associated Telephone & Telegraph Co., class "A"	6	8¾
Bell Telephone Co. of Canada	116½	171
Central Electric & Telephone Co.	1¼	1¾
Empire Telephone Co.	5	8½
Florida Telephone Corp.	10	..
General Telephone Corp.	14⅜	18
Home Telephone & Telegraph Co., of Fort Wayne, $50 par	62	65½
Illinois Bell Telephone Co.	158	162
International Telephone & Telegraph Corp.	9[illegible]	11[illegible]
Investors Telephone Co., $100 par	17	21
Lincoln Telephone & Telegraph Co., class "A"	36	..
Middlewestern Telephone Co.	3	4
Mountain States Telephone & Telegraph Co.	139½	143½
New England Telephone & Telegraph Co.	127	132½
Northern Ohio Telephone Co.	61	..
Peninsular Telephone Co.	25⅜	28¼
Telephone Bond & Share Co., class "A"	4¼	6¾
Telephone Investment Corp., no par	46	49½
Western Light & Telephone Co.	1	1⅜

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Report of Northwestern Bell and Subsidiaries

The annual report of the Northwestern Bell Telephone Co. and its subsidiaries, the Tri-State Telephone & Telegraph Co. of St. Paul, Minn., and the Dakota Central Telephone Co. of Aberdeen, S. D., for the year 1936 was recently made public. It shows that on December 31, of last year, the Northwestern Bell and its subsidiaries had a total of 768,768 telephones in operation in the 655 cities and towns served in the states of Iowa, Minnesota, Nebraska, North Dakota and South Dakota.

Their combined plant investment amounted to $167,098,179 and their total personnel included 4,845 men and 7,526 women. The station gain was 4.74 per cent over the preceding year but 6.94 per cent less than the maximum development reached in 1931. Toll revenues were 11.23 per cent greater during the past year than in 1935, but 15.92 per cent less than in 1930, when toll revenues were at their maximum.

The combined telephone revenues of the Northwestern Bell, Tri-State and Dakota Central companies in 1936 exceeded those of the preceding year by 6.78 per cent. The Northwestern Bell paid its regular 6½ per cent preferred stock dividend and $6 a share on common stock. The Tri-State paid its regular dividend of 6 per cent on preferred stock to the date of its redemption, December 1, 1936, (634,678 shares at $11 par value), but no dividends were paid on common stock.

Similarly, the Dakota Central paid dividends of 6½ per cent on its preferred stock to the date of redemption, July 1, 1936 (3,958 shares at $100 per share). No dividends were paid on common stock by that company.

Expenditures of the three companies for new construction in 1936 amounted to $11,104,058. With plant retirements of $8,124,080, the net increase in plant investment was $2,979,978. At the close of the year construction was under way or completed on eight new central office buildings and the replacement of central office equipment in 30 communities.

Construction by the Tri-State company of a new, seven-story building in downtown St. Paul was carried on through 1936 and will be completed in the current year. It was deemed desirable to increase the size of the central office areas in St. Paul and house the equipment serving them in fewer buildings, with more equipment in each building.

The balance sheet of the Northwestern Bell as of December 31, 1936, shows total assets of $170,531,904. This includes $134,263,044 invested in telephone plant. The company had an accumulated depreciation reserve of $39-267,637 and a balance in the surplus account of $3,295,552.

The income statement of the Northwestern Bell shows total operating revenues of $32,143,957, an increase of $2,002,175 over 1935. Operating expenses totaled $22,016,874, an increase of $315,331. After deducting $3,526,397 for operating taxes, an increase of $632,937, adding $354,219 of non-operating income and deducting $401,569 for interest charges, the net income was $6,553,337. Deducting $312,052 for dividends on preferred stock and $5,-900,000 for dividends on common stock, there was a balance for the year of $341,284.

On December 31, 1936, the Tri-State and Dakota Central companies had total assets of $27,852,312 and $6,922,496, respectively. The income statement of the Tri-State showed operating revenues totaling $5,742,027; income available for fixed charges was $1,172,177 and income after fixed charges and dividends on preferred stock of $316,001. The operating revenues of the Dakota Central were $1,271,863; income available for fixed charges, $85,279. After the payment of fixed charges, there was a net loss for the year of $6,971.

The Northwestern Bell company and subsidiaries operate 703 central offices, 63,533 miles of pole line, 1,675,622 miles of underground wire and 1,207,483 miles of aerial wire.

A. A. Lowman is president of the Northwestern Bell; H. G. Conger, vice-president; F. E. Randall, vice-president and general counsel; R. P. Baird, general auditor; R. B. Johnson, secretary-treasurer, all of Omaha, Neb.

Frank Bracelin, Minneapolis, is general manager of Minnesota properties; W. F. Cozad, Omaha, general manager, Nebraska-South Dakota; I. G. Carll, Des Moines, general manager, Iowa; and W. J. Brazell, Fargo, general manager, North Dakota.

▼ ▼

Annual Report of the Rochester Telephone Corp.

The Rochester (N. Y.) Telephone Corp. experienced a good year in 1936, adding about twice as many stations as in the two preceding years according to the annual report of the directors. The 100,-000-mark in owned telephones has again been passed and one-third of the depression losses regained.

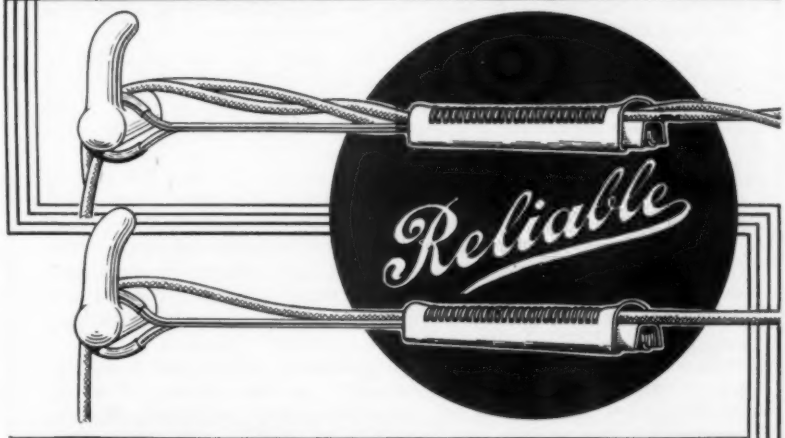
Interest on the company's funded debt was earned 2.84 times; interest charges as a whole were earned 2.36 times. Dividends on preferred stock were earned 3.19 times and dividends as a whole, 1.20 times.

The operating revenues, which totaled $4,764,556 represented an increase of 4.44 per cent over 1935. Operating expenses, exclusive of taxes, were $3,-524,992, an increase of 5.58 per cent. Current maintenance accounted for $104,000 of the increase (which totaled $190,700). This was due to the damage caused by a sleetstorm in March, 1936, much of the damaged plant being entirely replaced.

Taxes showed a net increase of $35,-549, almost 10 per cent. In 1922 the company's taxes represented 5.40 per cent of operating revenues; in 1936, they represented 8.37 per cent.

Net earnings available for dividends, in 1936, were $821,985, an increase of $76,699 over the preceding year. Unappropriated surplus was $1,148,108, less by $110,666 than the amount at the end of 1935. This shrinking in surplus was attributed to the refunding of $5,000,000 of series "C" 4½ per cent bonds with 3½ per cent bonds. This required the charging to surplus of $116,728, the unamortized portion of discount and expense applicable to this series of bonds and the expense of call-

"STANDARDIZE DEAD-END TIES"



DROP WIRE CLAMPS

- The type "P" drop wire clamp is an ideal device for attaching No. 17 B&S twisted pair or parallel drop wire to poles and buildings. It prolongs the life of the drop wire, permits free swinging at the tie, places all of the wear on the hardware and eliminates the sharp bends necessary with other methods.

This clamp is easily and quickly installed, making a very neat installation. Slack in drop wires can be taken up quickly without leaving any weak spots on the wire. Write for samples.

Reliable ELECTRIC COMPANY
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ing them. Interest saved by refunding, however, will restore this item to surplus in about three years.

Gross additions to plant during 1936 amounted to $1,611,902 and net additions, to $385,624. On December 31, 1936, the investment in plant per telephone was $207 as compared with $211 at the end of 1935.

The assets of the Rochester company, totalling $24,672,394, include plant investments of $20,803,624. Of the total liabilities, $7,196,600 represents first preferred, second preferred and common capital stock; $7,237,756, long-term indebtedness; $3,040,741, current liabilities; and $5,876,512, depreciation reserve; and $1,283,108, surplus.

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Annual Report of Home Company, Ridgway, Pa.

A station increase of 3.9 per cent, a gain of 30.4 per cent in originating toll calls and an increase of 23.1 per cent in toll revenues is revealed in the annual report of the Home Telephone Co., of Ridgway, Pa., for the year ended December 31, 1936. Bond interest requirements were earned 2.8 times and preferred stock dividend requirements, 3.2 times, says President John H. Wright, in his analysis of 1936 financial operations, for the directors of the company.

From its seven exchanges, the company was serving 3,535 stations at the close of 1936, 7.8 per cent less than at the peak of development, in 1930. Of that total, 76 are connecting stations. The company maintains 176 miles of pole line, 4,657 miles of local wire, 700 miles of toll wire and 314 miles of underground wire. Exchange messages averaged 16,304 a day in 1936, while outward toll messages totaled 134,608 for the year. The total annual payroll was $60,339, with an average of 54 employes.

The total operating revenues of the Home company for 1936 were $155,723; operating expenses, $99,297, and net operating income (after deducting $9,109 for taxes), $47,318. Net income for the year was $28,961, as compared with $28,858 in 1935. The unappropriated surplus, as of December 31, 1936, after 6 per cent dividends on preferred and common stock and miscellaneous deductions, was $33,743, compared with $40,825 in 1935.

Gross additions to telephone plant amounted to $88,534 for the year and gross retirements, $61,598. The total telephone plant as of December 31, 1936, amounted to $709,356. This compares with $682,419 on December 31, 1935. Reserve for depreciation as of December 31, 1936, amounted to $108,222, a decrease of $18,571 over 1935. Total assets were $837,032 as compared with $809,904 on December 31, 1935.

Taxes paid by the company, together with those paid by toll users, amounted to $4.70 per share of preferred stock and $3.99 per connected station.

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Central West Co. Issues Annual Report

The annual report of the Central West Co., of Sioux City, Iowa, for the year ended December 31, 1936, shows operating revenues totalling $499,294 (including telephone revenues of $202,387); operating expenses (including taxes), $500,492; and a net loss of $1,199 from operations. In the first two months of the year, when the properties were operated by the Central West Public Service Co., operations resulted in a loss of $20,798. In the ensuing 10 months, there were net earnings of $19,600, reducing the loss for the year to $1,199.

The balance in the surplus accounts, as of February 29, 1936, was $297,471. Adding $19,600 net income for the last 10 months of 1936, and $275,410 by reason of an adjustment of the liquidation reserve as approved by the directors, and deducting $83,147 distributed to common stockholders at the rate of $1 a share and miscellaneous charges to surplus, the balance in surplus was $488,395, as of December 31, 1936.

The company's assets are valued at $1,067,336.

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Operating Incomes of Large Companies

The Federal Communications Commission reports that 81 large telephone companies had a combined net operating income in March of $20,043,358, against $19,490,449 in March, 1936. For the three months, combined net operating income was $59,890,066, against $55,174,635 in the 1936 period.

GROWTH

By MISS ANNE BARNES

Traveling Chief Operator, Iowa Independent Telephone Association, Des Moines, Iowa

"J'ever throw a pebble in a lake?
J'ever watch the circle it 'ud make?
From very small it multiplies
A thousand times the pebble's size."
—Jos. R. Cushing

It is easy to believe in what you see, especially if it is something growing right before your eyes. I planted some seeds in a box last spring, but when I thought they had plenty of time to grow up through the rich soil, there were no signs of them. Then I began to think of things that probably had prevented their growth. "The rains washed them away. . . . I planted them too deep. . . . They were not good seeds."

Completely out of patience, I did not look at the box for several days. Then one day, glancing at the box, I saw many tiny green shoots peeping through the soil.

The growth of those seeds may have been retarded by some of the things I had thought of; however, they came through in *their* time rather than the time I had allowed for them to appear. When I saw them peeping through the ground I was ashamed of my *lack of patience.*

And I thought: How much could be accomplished in life if one did not so often lack patience, perseverance, and endurance. Whether conditions are favorable or not, many of us give up without allowing proper time for growth.

Anything worthwhile does not work entirely according to man-made time schedules. Interruptions are often our greatest blessings.

When we look up into the green trees all about us, we must remember that the leaves did not *start* growing this spring, but rather last spring. And that as soon as they unfolded themselves this present year, others *started* growing for next year. In spite of the frosts, drouths, storms, and lack of patience of mankind, the leaves are here again.

MORAL: When we are studying and applying our *present* new toll practices, let us remember that even now there are others (revisions) coming on. We would not have it otherwise, for this means *growth* that meets the needs of the times.

Commission and Court Activities

Appropriate $1,629,000 for FCC's Regular Activities

Congress has passed the independent offices supply bill which has gone to the President for approval. The bill carries an appropriation of $1,629,000 for the regular activities of the Federal Communications Commission for the fiscal year July 1, 1937, to July 1, 1938.

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FCC Inquiry Hears About Control of Bell

Continuing its hearings on June 23 in the investigation of American Telephone & Telegraph Co., the Federal Communications Commission placed in its record another four-volume report entitled "Control of Telephone Communications."

Reciting the complete history of the development of A. T. & T., the report concludes with the statement that the company's directorate, by use of proxy machinery, has become a self-perpetuating body. Further, it was stated the last two presidents of the company have been the selection of the outgoing presidents. Thus, there has been developed a self-continuation of management apart from the self-perpetuation of the directorate, it is charged.

The testimony was presented by Dr. N. R. Danielian who was examined by Holmes A. Baldrige, special counsel in charge of the investigation. The history of the Bell, the witness pointed out, includes five stages of control.

The first stage—that of ownership control—was from the telephone's invention of 1876 to 1881. From 1881 to 1907 original ownership interest in stock and management decreased below 50 per cent and fell to 5 per cent in 1900. The company in this stage—characterized as the directorial control period by Dr. Danielian—was alleged to be under control, principally, of New England financial and commercial interests.

From 1907 to 1918 was the period of "banking control" during which New York banking interests dominated the policies of the company. It was charged by Dr. Danielian that the A. T. & T. Co. in 1916 was persuaded by Morgan & Co. to purchase $20,000,000 of the British special demand loan, necessitating a bond issue by the A. T. & T. Co. of $80,000,000 to raise the funds. This loan, Dr. Danielian stated, was repaid in three months and earned 6 per cent for the company.

The period from August 1, 1918, to August 1, 1919, was classified as federal government control with the Wire Control Board composed of operating company officials—Independent, Bell and Western Union. "Actual control of the business remained with the companies," Dr. Danielian stated. The Bell contract for compensation for use of its properties during the period of government control resulted, it was charged, in Postmaster General Burleson being forced to pay the A. T. & T. $9,290,000 and also to increase telephone rates.

The fifth stage of control, under which the company is now operating, was declared to be "management control." "The administrative management of the American company has become self-perpetuating in this period commencing in 1919," Dr. Danielian charged.

The election of President Walter S. Gifford of the A. T. & T. in 1925 was arranged and effected by the late H. B. Thayer and it suggested the "aspects of a self-continuing organization," the witness stated.

"There is a preference for men on the board of directors with financial connections, but in particular certain interests of Boston and New York have had a continuing connection with the management on the board of directors," Dr. Danielian said in reference to the present policy of the A. T. & T. administration.

▼ ▼

FCC Order on Accounting for Pensions

The telephone division of the Federal Communications Commission has issued Order No. 7 E, effective June 16, relating to the text of account 672 "Relief and Pensions" of its uniform system of accounting, which became effective January 1, 1937. The commission's order reads:

"It is ordered, that the following sentence be added to paragraph (D) of the text of account 672, 'Relief and Pensions,' page 107:

Each company that has adopted the accrual plan of accounting for pensions shall make no change in the accounting therefor, or in the method of computing the amounts of the accruals recorded in the accounts under the plan, without first submitting full particulars of the proposed changes and a detailed statement of the reasons therefor to this commission for its consideration and approval.

MAKING IT
Easy and Convenient
TO TELEPHONE

A department store counter as shown above is a convenient and prominent location for a Gray Telephone Pay Station.

This is only one of many possible locations for pay stations. All railway and bus stations, hotel lobbies, drug stores, cigar stores, etc., in your territory are revenue producing locations for a pay station installation.

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GRAYBAR ELECTRIC CO., INC., New York, N. Y.
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CANADIAN TELEPHONES & SUPPLIES LIMITED, Toronto, Montreal, Winnipeg and Vancouver
NORTHERN ELECTRIC CO., LTD., Halifax, Montreal, Toronto, Winnipeg, Regina, Calgary, Edmonton, Vancouver
Or any other telephone supply house

GRAY TELEPHONE PAY STATIONS

"Telephony's" Engineering Data

By B. C. BURDEN

Index, General.
July 3, 1937.
No. 43-A, Page 51.

Theory and Practice of the Magneto Telephone Exchange (Ctd.)

The pair connected to line jack No. 2 will have one wire with solid orange color insulation and the mate conductor white.

The color code for switchboard cable in common use is as follows:

Pair No. 1—Blue	Pair No. 11—Orange-white
Pair No. 2—Orange	Pair No. 12—Orange-green
Pair No. 3—Green	Pair No. 13—Orange-brown
Pair No. 4—Brown	Pair No. 14—Orange-slate
Pair No. 5—Slate	Pair No. 15—Green-white
Pair No. 6—Blue-white	Pair No. 16—Green-brown
Pair No. 7—Blue-orange	Pair No. 17—Green-slate
Pair No. 8—Blue-green	Pair No. 18—Brown-white
Pair No. 9—Blue-brown	Pair No. 19—Brown-slate
Pair No. 10—Blue-slate	Pair No. 20—Slate-white

Color coding of switchboard cables greatly facilitates installation work as it eliminates the necessity for individually testing and identifying each pair on the two ends of the cable.

Various Types of Switchboard Drops

The actual mechanical arrangement of various makes of

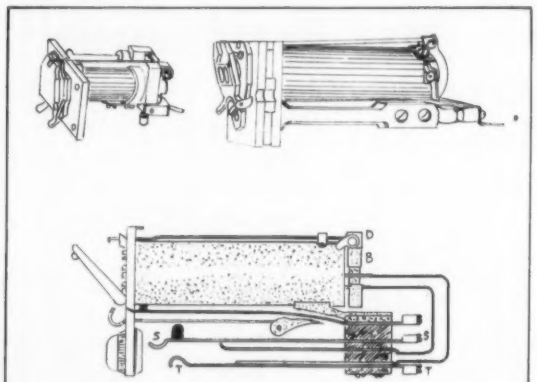

FIG. 52. VARIOUS TYPES OF MAGNETO SWITCHBOARD DROPS.

"Telephony's" Engineering Data

By B. C. BURDEN

Index, General.
July 3, 1937.
No. 43-A, Page 52.

drops may differ widely; the operating principles, however, are substantially the same. Fig. 52 illustrates several different types of magneto switchboard drops. Fig. 53 illustrates three line-jack arrangements which are encountered in telephone exchanges:

In Fig. 53-A the insertion of the plug in the line jack removes both sides of the drop from the jack. This arrangement is particularly useful on toll circuits in order to avoid

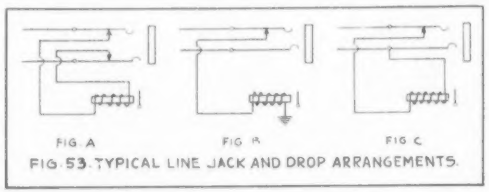

FIG. 53. TYPICAL LINE JACK AND DROP ARRANGEMENTS.

any possibility of unbalance of the circuit by one side of the drop being connected.

The arrangement of Fig. 53-B is used where the drop is connected from one side of the line to ground as in special silent signaling systems. In the line jack-drop combination of Fig. 53-C only one side of the drop is disconnected when the plug is inserted in the jack.

Electrical Characteristics of Magneto Drops

Magneto line drops are generally wound to a resistance of 500 ohms. Drops used on toll circuits are often wound to a resistance of 1,000 ohms. The impedance at voice frequencies (1,000 cycles) of typical 500-ohm drops is from 8,000 to 12,000 ohms. It can thus be seen that these drops do not cause much transmission loss if left bridged across the telephone line, although it is customary to use jacks which disconnect them when the plug is inserted.

Drops are made with a tubular iron shell positioned on the core so as to confine the electromagnetic field due to the current flowing in the winding within the drop itself, thus preventing it from *cross-talking* or *cross-ringing* with adjacent drops.

Fig. 54 illustrates the magnetic structure of a typical magneto drop. It will be noted that the tubular iron shell carries the magnetic flux from the core back to the armature end of the drop.

Index to "Telephony's" Engineering Data, July 1, 1936, to June 30, 1937

SUBJECT AND INDEX — DATE

General:

No. 35-A American Wire Gauge Tables.....October 3, 1936

No. 36-A Ringing Machine Protective Lamp.....December 12, 1936

No. 37-A Industrial Krinkle Finish Enamel for Shop Use.....February 6, 1937

No. 38-A The Use of the Slide Rule.....October 10, 24 and 31 and November 14, 1936

No. 39-A Static Electricity.....December 26, 1936, and January 2, 1937

No. 40-A Circuit Diagrams.....January 9 and 16, 1937

No. 41-A Conductors and Insulators.....January 23 and 30, 1937

No. 42-A Electrical Testing Instruments.....February 6, 13, 20 and 27, 1937

No. 43-A Theory and Practice of the Magneto Telephone Exchange:

General Features and Terminology.....February 27, March 6, 1937

Basic Principle of the Telephone.....March 13, 20 and 27, 1937

The Magneto Subscriber's Set.....April 3, 10, 17 and 24, 1937

Protective Services for Telephone Systems.....May 1, 8, 15 and 29, 1937

Arrangement of Protection Equipment in the Central Office.....May 29, June 5, 12 and 19, 1937

Central Office Arrangement and Magneto Switchboard.....June 19 and 26, 1937 (Ctd.)

Maintenance Practices:

No. 16-C Modern Exchange Testing Methods.....June 27, July 4, 11, 18 and 25 and August 8, 1936

No. 17-C Telephone Repair Bench.....November 14, 21 and 28, December 5 and 12, 1936

Pole Line Construction:

No. 15-B Notes on Pole Climbing.....December 19 and 26, 1936

Transmission Data:

No. 16-A Use of an Alternating Current Voltmeter in Reading Decibels.....September 19 and 26, 1936

No. 17-A Crystal Microphones.....September 26, 1936

Vacuum Tube Practice:

No. 9-A Vision in the Dark; the Electron Telescope.....August 8 and 22, 1936

No. 10-A Exploding the Atom...August 22 and 29, 1936

No. 11-A Theory of Vacuum Tube Testing.....August 29, September 5, 12 and 19, 1936

No. 12-A The New Grid Bias Cell.....October 10, 1936

Answers to the Traffic Questions on Page 11

1. If you have an alternate route or routes which you have not previously tried, say "Right." Clear the toll circuit and try the alternate route. If you encounter NC on the first route under any other conditions, leave a call order, saying: "Call operator (No. of proper point-to-point pos.) at (name of your office) (precedence)."
2. Yes, in every case.
3. If there are fewer than five calls in the sequence, the filing time need not be entered unless no attempt is made on a call before sending it to the sequence position.
4. "Ag (time)" is entered in the Special Instruction space but the entry is not encircled.
5. If you encounter NC at the first intermediate office on any alternate route, do not leave a call order but say, "Right," release the toll circuit, and try the first route as soon as you are able to secure a circuit, in the meantime trying the alternate route (or routes) at intervals of three minutes.

   If you encounter NC on an alternate route at an intermediate office beyond the first, leave a call order at once. If you have left a call order on an alternate route and the first section of any other authorized route becomes available, try at once to reach the TTC over this route. If NC is encountered, do not leave a call order but make subsequent attempts at intervals of three minutes.

It is further ordered, that each company that has adopted the accrual plan of accounting for pensions shall, within 30 days from the effective date of this order, submit to this commission for its consideration and approval a detailed statement of the reasons for and full particulars concerning: (a) any changes that have been made (or have become effective in the accounts) since December 31, 1936, in the accounting for the plan or in the method of computing the amounts of the accruals recorded in the accounts under the plan, (b) the amounts of the estimated increases or decreases in the annual accruals occasioned by each such change, and (c) the accounts affected by each such change.

▼ ▼

State Commissions Oppose FCC Intrastate Jurisdiction

The National Association of Railroad & Utilities Commissioners, on June 22, filed a brief with the Federal Communications Commission opposing federal jurisdiction over telephone lines used primarily in intrastate service and asking that oral argument be permitted before a ruling is made on the jurisdiction of the FCC over the construction of intrastate toll lines by the Southwestern Bell Telephone Co. in Texas.

The brief points out that the provisions of the Federal Communications Act of 1934 demonstrate that the purpose of Congress was not to impair state jurisdiction. Regulation by the FCC of the construction of lines primarily used in intrastate service, the brief recites, "would serve no federal purpose and is beyond the power of the commission with any means now at its disposal or likely soon to be."

The brief asserts that the FCC would either have to pass approval upon countless extensions in a pro forma manner, without actual knowledge, or a tremendous staff would have to be set up, necessitating huge appropriations.

Attention is directed to the marked difference in position between the Communications Act of 1934 and the Transportation Act of 1920. Although the railroad business was predominantly interstate (approximately 15 per cent being intrastate) the telephone business is predominantly intrastate, only about 10 per cent of it being interstate.

At the time the former act was passed, the telephone companies were prosperous and were rendering highly efficient service. A different situation existed with respect to the railroads, the brief points out, when Congress passed the Transportation Act. After government control during the world war the railroads were in need of rehabilitation and there were many state commission acts in effect prior to the war which would have meant drastic rate reductions if the railroads had returned to state commission regulation, it was stated.

"In the Communications Act," the brief recites, "Congress sought only to bring under efficient federal regulation so much of the telephone business as was not subject to state regulation; and to make certain that state powers should not be hampered or diminished, it undertook to limit the jurisdiction of

LEGAL NOTICE

LON J. DARLEY, Complainant, vs. ALABAMA PUBLIC UTILITIES COMPANY, A CORPORATION, Respondent. } IN THE CIRCUIT COURT OF MONTGOMERY COUNTY, ALABAMA, IN EQUITY

Pursuant to an order of the Circuit Court of Montgomery County, Alabama, In Equity, entered in the above entitled cause on the 21st day of May, 1937, notice is hereby given that all prospective purchasers of the telephone properties located in Pickens, Marion, Lamar, Winston and Franklin Counties, in the State of Alabama, and of all other properties in the custody and possession of the Receiver of the assets of Alabama Public Utilities Company, a corporation, are invited to file their sealed bids with the Register of this Court on or before noon of June 21, 1937, for the purchase of said properties, subject to the perfection of title in these proceedings, or by such other method or proceeding as may be advisable, and to the approval of such title by the prospective purchaser's attorneys. The Court reserves the right to reject any or all bids, and to require such evidence of good faith and ability to perform the contract of purchase and of ability to secure the approval of the Alabama Public Service Commission to such purchase, and to perform the needed public service in the operation of said properties, as to this Court may appear reasonable and proper.

This the 24th day of May, 1937.
GEO. H. JONES, JR.,
Register of the Circuit Court of
Montgomery County, Alabama, In Equity.

By decree rendered in the above stated cause by the Circuit Court of Montgomery County, Alabama, In Equity, on June 21, 1937, the time for filing sealed bids with the Register of said Court, as referred to in above notice, is extended, and said bids may be filed on or before noon of August 23, 1937; and any such bids may be accompanied by any reasonable conditions as to the bidders may seem fit, the Court reserving the right to reject any and all bids.

This the 22nd day of June, 1937.
GEO. H. JONES, JR.,
Register of the Circuit Court of
Montgomery County, Alabama, In Equity.

(Adv.)

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T. M. Partridge Lumber Co., Minneapolis, Minn.—Northern White—Western Red Cedar Poles. Plain or butt-treated.

H. Sigalet & Company, Ltd., Lumby, B. C., Canada—Western Red Cedar Poles. Plain or butt-treated.

Valentine Clark Corporation, 2516 Doswell Ave., St. Paul, Minn.—Finished Cedar Poles. Plain or butt-treated.

the federal agency so clearly that there would be no overlapping of functions between the federal commission and state regulatory agencies."

The brief asserts that "with over 90 per cent of the telephone business intrastate and local in character, the states have such a vastly preponderant interest in the telephone business, and such a duty with respect to it, that any legislation interferring with their power to control construction designed primarily for intrastate service, could not be justified under our constitutional system, even if it could be constitutionally sustained."

▼ ▼

Too Late to Intervene, Claims Ohio Bell

The Ohio Bell Telephone Co. on June 24 filed with the Ohio Public Utilities Commission an answer to the application of Jack Dworken to be made a party to the Cleveland suspended rate case now consolidated with the statewide inquiry.

The telephone company, in its answer, states that following the order of the commission in this cause, No. 142, approving the bonds of the respondent persuant to which it made an increase in its Cleveland area effective under bond, neither the intervener nor any one else filed with the commission any application or petition for rehearing of the commission's order.

The answer further states that the time for such application or petition has long since expired, and that by reason of his failure to assert in this cause for more than 13 years, the claims set forth in his petition for leave to intervene herein, said petitioner has been guilty of laches forever barring said claims as well as his right to assert them.

▼ ▼

Summary of Commission Rulings and Hearings

Federal Communications Commission
Washington, D. C.

June 17: Telephone division approved letter to the Red River Valley Telephone Co., Northwood, N. D., advising that company that it is under duty to file its schedules of charges or to file a concurrence in the schedules of the Northwestern Bell Telephone Co.

June 22: Telephone division granted authority to the American Telephone & Telegraph Co. to supplement existing facilities between Denmark, S. C., and West Palm Beach, Fla.

June 22: Telephone division granted the Bell Telephone Co. of Pennsylvania authority to supplement existing facilities between Rochester and Midland, Pa.

June 22: Brief filed by the National Association of Railroad & Utilities Commissioners opposing federal jurisdiction over telephone lines used primarily in intrastate service and asking that oral argument be permitted before a ruling is made on the jurisdiction of the FCC over the construction of an intrastate toll line by the Southwestern Telephone Co. in Texas.

Arkansas Department of Public Utilities

July 12: Order issued granting the Arkansas Hotel Association authority to intervene in the city of El Dorado's suit against the Southwestern Bell Telephone Co. Hearing at which the association will present argument for more liberal terms from the company on hotel service set for 10 a. m. on this date.

An objection to a separate hearing for the hotel association has been filed by the telephone company contending that a previous order of the commission consolidated all investigation of telephone rates into a statewide inquiry, which will not be completed for several months.

California Railroad Commission

June 10: The commission approved telephone rate reductions for the California Water & Telephone Co. in the city of Redlands.

Georgia Public Service Commission

July 20: Hearing on citation of the commission requesting the Southern Bell Telephone & Telegraph Co. to show cause why local rates should not be reduced in 66 cities and towns and also why long distance rates within the state of Georgia should not be cut.

Illinois Commerce Commission

June 29: Hearing in Chicago on complaint of the Clearing Industrial Association et al. against the Illinois Bell Telephone Co. as to unjust and unreasonable charges for telephone service by the Illinois Bell company to complainants in the Chicago exchange area. Petition for rehearing filed by complainants and granted by the commission.

June 30: Hearing in Chicago on complaint of Henry A. Proesel et al. against the Illinois Bell Telephone Co. as to rates for telephone service in adjacent exchanges to complainants as subscribers in the county of Cook. Amended complaint filed by complainant.

June 30: Hearing in Chicago on application of the Wabash Telephone Co. for approval of contract with the Telephone Directory & Advertising Co. for solicitation of directory and advertising

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and the printing of telephone directories.

June 30: Hearing in Chicago on application of the Illinois Northern Utilities Co. for a certificate of convenience and necessity to construct and operate a private telephone line in or near the city of Union in McHenry County.

Minnesota Railroad and Warehouse Commission

June 22: Order issued authorizing the Halstad Telephone Co. to purchase and the Red River Valley Telephone Co. to sell all assets of the latter company located at Climax.

June 22: Order issued approving the application of the Redwood County Rural Telephone Co. for permission to place into effect a schedule of rates for manual common battery service at its Walnut Grove exchange.

June 22: In the matter of the complaint of the Trans-Siberian Telephone Co. of invasion of territory by the Taus Line, order issued directing Wm. F. Taus, et al. interested in the Taus Line to immediately discontinue operating a telephone line or rendering any telephone service in the territory now served by the Trans-Siberian company in Roseau County.

June 22: In the matter of an application of the Northwestern Bell Telephone Co. asking approval of a rate schedule for manual common battery service at its Roseau exchange, order issued authorizing the company to place into effect a net rate of $3.00 per month for a one-party business line and $2.50 for a two-party business line.

It was directed that these rates become effective after the Roseau exchange has been rebuilt and converted to a common battery exchange in accordance with the plans specified in the petitioner's application, and after such converted plant has been approved by the commission.

Nebraska State Railway Commission

June 16: Hearing held on citation against Northwestern Bell Telephone Co. to show cause why a depreciation rate of 3.27 per cent should not be set up for 1937; objections offered by company; decision indefinitely deferred.

New York Public Service Commission

June 22: New York Telephone Co. authorized to issue $25,000,000 of refunding mortgage 3¼ per cent bonds. The issue is to be sold to underwriters at not less than 98 per cent of principal amount to realize proceeds to the company of not less than $24,500,000. An underwriting group headed by Morgan Stanley & Co., Inc., will distribute the issue.

The proceeds, together with additional cash from the company's treasury, are to be used to redeem $25,000,000 of New York Telephone Co. 6½ per cent cumulative preferred stock, which has been called for redemption on July 15, at 110 plus dividends. The author-

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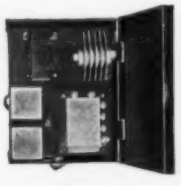

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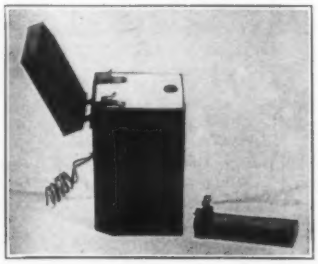

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ization provides that the total compensation to be received by the underwriters shall not exceed $500,000.

June 30: Hearing in Albany before Examiner W. T. Wilkinson on petition of the Middleburgh Telephone Co. to issue $12,000 of common capital stock.

North Dakota Board of Railroad Commissioners

June 22: Hearing at Bismarck on revised telephone rates for service to charitable organizations in Jamestown and Grand Forks on petition filed by the Northwestern Bell Telephone Co.

Ohio Public Utilities Commission

June 22: Joint application filed by the Farmers Mutual Telephone Co. of Pattersonville to sell all of its property and business to L. D. and Nellie J. Wilson, of 126 Pennsylvania avenue, Louisville, Ohio.

Without the formality of a hearing the application was granted by the commission on the following day, when it imposed the condition there be no increase in rates or diminution in service as a result of the transaction. The consideration in the transaction was $300.

June 22: Upon condition that there be no increase in rates, the Ohio Bell Telephone Co. was authorized to revise its toll rate and route guide to show discontinuance of exchanges formerly operated by the Bakersville & Stone Creek Telephone Co., whose subscribers will now be served by the Baltic exchange of the Ohio Associated Telephone Co. at Careytown.

The latter exchange was formerly operated by the Careytown Home Telephone Co. whose subscribers will now be served by the New Vienna exchange of the Clinton Telephone Co. and at New Cumberland, formerly operated by the New Cumberland Union Telephone Co. whose subscribers will be served by the New Philadelphia exchange of the Ohio Associated company.

June 22: The Citizens Telephone Co. of Circleville petitioned the commission on this date for authority to make and issue a 10-year 5 per cent promissory note dated August 1, 1937, of $33,900 to refund a like amount of two year 7 per cent notes which mature on that date. The authority sought was granted by the commission on the following day.

June 22: Application filed by the New Concord Telephone Co. for authority to make and issue a 10-year 6 per cent note dated July 1, 1937, of the principal sum of $16,500 to refund a like amount of two-year 7 per cent notes which mature on that date. Such authority was granted by the commission on the following day.

June 25: Authority granted to the Ohio Bell Telephone Co. to revise rules governing the imposition of 15 cents extra per month for handset instruments until $2.70 has been paid to allow for interruption in continuity of service for a period of two years and for periods of more than two years where previous use can be determined from the company's records.

June 25: By purely formal entry, the commission denied the application of the Northern Ohio Telephone Co. for a rehearing of the commission's order of May 14, wherein upon complaint of the Oil Belt Telephone Co. it directed the continuance of interchange of service between Bowling Green, Cygnet and other points and fixed the compensation for such service.